SEQUENCE LISTING

<110> Day, Anthony G.
Estell, David A.
Lyons, Eric H.
Yao, Jian

<120> Methods for Modulating Proteins Not
Previously Known as Proteases

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<160> 92

<170> FastSEQ for Windows Version 4.0

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<211> 303
<212> PRT
<213> Homo sapiens

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 1               5                  10                  15
Gly Leu Ala Val Gly Leu Thr Arg Ser Cys Asp Ser Ser Gly Asp Gly
            20                  25                  30
Gly Leu Gly Thr Val Pro Ala Pro Ser His Leu Pro Ser Ser Thr Ala
        35                  40                  45
Ser Pro Ser Gly Pro Pro Ala Gln Asp Gln Asp Ile Cys Pro Ser Ser
    50                  55                  60
Glu Asp Glu Ser Gly Gln Trp Lys Asn Phe Thr Ala Glu Leu Arg Gln
65                  70                  75                  80
Pro Gly Pro Asp Leu His Val Lys Pro Leu Leu Glu Glu Asp Thr Tyr
                85                  90                  95
Thr Gly Thr Val Ser Ile Ser Ile Asn Leu Ser Thr Pro Thr Arg His
                100                 105                 110
Leu Trp Leu His Leu Gly Glu Ser Arg Ile Thr Trp Leu Pro Asp Thr
        115                 120                 125
Arg His Leu Trp Leu His Leu Gln Glu Thr Arg Ile Thr Trp Leu Pro
    130                 135                 140
Glu Met Lys Arg Pro Ser Gly Asp Gln Val Gln Ile Arg Arg Cys Phe
145                 150                 155                 160
Glu Tyr Lys Lys Gln Glu Tyr Val Val Val Glu Ala Glu Glu Ser
                165                 170                 175
Gly Asp Gly Leu Tyr Leu Leu Thr Met Glu Phe Ala Gly Trp Leu Asn
                180                 185                 190
Ser Ser Leu Leu Gly Phe Thr Tyr Thr Glu Asn Gly Gln Val Lys Ser
        195                 200                 205
Ile Ala Ala Thr Asp His Glu Pro Thr Asp Ala Arg Lys Phe Phe Pro
    210                 215                 220
Cys Phe Asp Lys Pro Asn Lys Lys Ala Thr Tyr Thr Ile Ser Val Thr
225                 230                 235                 240
His Pro Lys Glu Tyr Glu Ala Leu Ser His Met Pro Val Ala Lys Glu
                245                 250                 255
Glu Ser Val Asp Asp Lys Trp Asn Gln Thr Thr Phe Lys Lys Ser Val
```

```
                 260                    265                   270
Pro Met Ser Met Tyr Leu Val Cys Phe Ala Val His Gln Phe His Thr
         275                   280                   285
Val Lys Thr Ile Ser Asp Ile Gly Lys Pro Val Ser Leu Ile Ile
         290                   295                   300
```

<210> 2
<211> 407
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 230
<223> Xaa = Any Amino Acid

<400> 2
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Met Ser Pro Pro Leu Leu Leu Leu Pro Leu Leu Leu Leu Pro Leu
1               5                   10                  15
Leu Asn Val Glu Pro Ala Gly Ala Thr Leu Asp Pro Val Trp Ile Pro
         20                   25                   30
Leu Arg Gln Val His Pro Gly Arg Arg Thr Leu Asn Leu Leu Arg Gly
         35                   40                   45
Trp Gly Lys Pro Ala Glu Leu Pro Lys Leu Gly Pro Ser Pro Gly Asp
         50                   55                   60
Lys Pro Ala Ser Val Pro Leu Ser Lys Phe Leu Asp Ala Gln Tyr Phe
65                   70                   75                   80
Gly Glu Ile Gly Leu Gly Thr Pro Pro Gln Asn Phe Thr Val Ala Phe
                  85                   90                   95
Asp Thr Gly Ser Ser Asn Leu Trp Val Pro Ser Arg Arg Cys His Phe
                 100                   105                  110
Phe Ser Val Pro Cys Trp Phe His His Arg Phe Asn Pro Asn Ala Ser
         115                   120                   125
Ser Ser Phe Lys Pro Ser Gly Thr Lys Phe Ala Ile Gln Tyr Gly Thr
         130                   135                   140
Gly Arg Val Asp Gly Ile Leu Ser Glu Asp Lys Leu Thr Ile Gly Gly
145                   150                   155                  160
Ile Lys Gly Ala Ser Val Ile Phe Gly Glu Ala Leu Trp Glu Ser Ser
                 165                   170                   175
Leu Val Phe Thr Val Ser Arg Pro Asp Gly Ile Leu Arg Leu Gly Phe
                 180                   185                   190
Pro Ile Leu Ser Val Glu Gly Val Arg Pro Pro Leu Asp Val Leu Val
         195                   200                   205
Glu Gln Gly Leu Leu Asp Lys Pro Val Phe Ser Phe Tyr Phe Asn Arg
         210                   215                   220
Cys Trp Gly Gly Gly Xaa Gly Cys Ala Met Tyr Cys Arg Ile Val Arg
225                   230                   235                  240
Leu Glu Asp Pro Leu Asp Thr Gly Thr Pro Val Ile Val Gly Pro Thr
                 245                   250                   255
Glu Glu Ile Gly Pro Cys Met Gln Pro Leu Gly Glu Ser Leu Leu Ala
                 260                   265                   270
Gly Glu Tyr Ile Ile Arg Cys Ser Glu Ile Pro Lys Leu Pro Ala Val
         275                   280                   285
Ser Leu Leu Ile Gly Gly Val Trp Phe Asn Leu Thr Ala Gln Asp Tyr
         290                   295                   300
Val Ile Gln Phe Ala Gln Gly Asp Val Arg Leu Cys Leu Ser Gly Phe
305                   310                   315                  320
Arg Ala Leu Asp Ile Ala Ser Pro Pro Val Pro Val Trp Ile Leu Gly
                 325                   330                   335
Asp Val Phe Leu Gly Ala Tyr Val Thr Val Phe Asp Arg Gly Asp Met
                 340                   345                   350
Lys Ser Gly Ala Arg Val Gly Leu Ala Arg Ala Arg Pro Gly Ala Asp
         355                   360                   365
```

```
Leu Gly Arg Arg Glu Thr Gln Ala Gln Tyr Arg Gly Cys Arg Pro Gly
    370             375             380
Asp His Ala His Arg Val Ala Leu Ala Leu Leu Ser Lys Asn Pro Ile
385             390             395             400
Phe Pro Leu Asn Glu Pro Ala
            405
```

<210> 3
<211> 122
<212> PRT
<213> Homo sapiens

<400> 3
```
Met Asp Thr Ala Ala Lys Ala Ile Ile Leu Glu Gln Ser Gly Lys Asn
  1             5              10              15
Gln Gly Tyr Arg Asp Ala Asp Ile Arg Ser Phe Trp Pro Glu Gly Gly
            20              25              30
Val Cys Leu Pro Gly Ser Pro Asp Val Leu Glu Ser Gly Val Cys Met
            35              40              45
Lys Ala Val Cys Lys Arg Val Ala Val Glu Gly Val Asp Val Ile Phe
    50              55              60
Ser Arg Asp Ala Gly Arg Tyr Val Cys Asp Tyr Thr Tyr Tyr Leu Ser
65              70              75              80
Leu His His Gly Lys Gly Cys Ala Ala Leu Ile His Val Pro Pro Leu
            85              90              95
Ser Arg Gly Leu Pro Ala Ser Leu Leu Gly Arg Ala Leu Arg Val Ile
            100             105             110
Ile Gln Glu Met Leu Glu Glu Val Gly Lys
            115             120
```

<210> 4
<211> 393
<212> PRT
<213> Homo sapiens

<400> 4
```
Ile Tyr Val Ser Ser Trp Ala Val Gln Val Ser Gln Gly Asn Arg Glu
  1             5              10              15
Val Glu Arg Leu Ala Arg Lys Phe Gly Phe Val Asn Leu Gly Pro Ile
            20              25              30
Phe Pro Asp Gly Gln Tyr Phe His Leu Arg His Arg Gly Val Val Gln
            35              40              45
Gln Ser Leu Thr Pro His Trp Gly His Arg Leu His Leu Lys Lys Asn
            50              55              60
Pro Lys Val Gln Trp Phe Gln Gln Gln Thr Leu Gln Arg Arg Val Lys
65              70              75              80
Arg Ser Val Val Val Pro Thr Asp Pro Trp Phe Ser Lys Gln Trp Tyr
            85              90              95
Met Asn Ser Glu Ala Gln Pro Asp Leu Ser Ile Leu Gln Ala Trp Ser
            100             105             110
Gln Gly Leu Ser Gly Gln Gly Ile Val Val Ser Val Leu Asp Asp Gly
            115             120             125
Ile Glu Lys Asp His Pro Asp Leu Trp Ala Asn Tyr Asp Pro Leu Ala
            130             135             140
Ser Tyr Asp Phe Asn Asp Tyr Asp Pro Asp Pro Gln Pro Arg Tyr Thr
145             150             155             160
Pro Ser Lys Glu Asn Arg His Gly Thr Arg Cys Ala Gly Glu Val Ala
            165             170             175
Ala Met Ala Asn Asn Gly Phe Cys Gly Val Gly Val Ala Phe Asn Ala
            180             185             190
Arg Ile Gly Gly Val Arg Met Leu Asp Gly Thr Ile Thr Asp Val Ile
            195             200             205
Glu Ala Gln Ser Leu Ser Leu Gln Pro Gln His Ile His Ile Tyr Ser
```

```
          210                     215                     220
Ala Ser Trp Gly Pro Glu Asp Asp Gly Arg Thr Val Asp Gly Pro Gly
225                     230                     235                     240
Ile Leu Thr Arg Glu Ala Phe Arg Arg Gly Val Thr Lys Gly Arg Gly
                245                     250                     255
Gly Leu Gly Thr Leu Phe Ile Trp Ala Ser Gly Asn Gly Gly Leu His
                260                     265                     270
Tyr Asp Asn Cys Asn Cys Asp Gly Tyr Thr Asn Ser Ile His Thr Leu
            275                     280                     285
Ser Val Gly Ser Thr Thr Gln Gln Gly Arg Val Pro Trp Tyr Ser Glu
            290                     295                     300
Ala Cys Ala Ser Thr Leu Thr Thr Thr Tyr Ser Ser Gly Val Ala Thr
305                     310                     315                     320
Asp Pro Gln Ile Val Thr Thr Asp Leu His His Gly Cys Thr Asp Gln
                325                     330                     335
His Thr Gly Thr Ser Ala Ser Ala Pro Leu Ala Ala Gly Met Ile Ala
                340                     345                     350
Leu Ala Leu Glu Ala Asn Pro Phe Leu Thr Trp Arg Asp Met Gln His
            355                     360                     365
Leu Val Val Arg Ala Ser Lys Pro Ala His Leu Gln Ala Glu Asp Trp
        370                     375                     380
Arg Thr Asn Gly Val Gly Arg Gln Gly
385                     390
```

```
<210> 5
<211> 153
<212> PRT
<213> Homo sapiens

<400> 5
Leu Val Gly Tyr Ala Ile Gln Tyr Gly Cys Ile Ala His Cys Ala Ser
 1               5                  10                      15
Glu Tyr Val Gly Gly Val Val Met Cys Ser Gly Pro Ser Met Glu Pro
                20                  25                      30
Thr Ile Gln Asn Ser Asp Thr Val Phe Ala Gln Asn Leu Ser Arg His
            35                  40                      45
Phe Asp Ser Ile Gln Arg Gly Asp Ile Val Ile Ala Lys Ser Pro Ser
        50                  55                  60
Asp Pro Thr Ser Asn Ile Cys Lys Arg Val Thr Gly Leu Glu Gly Asp
65                  70                  75                      80
Lys Ile Leu Thr Thr Ser Pro Ser Asp Phe Phe Lys Ser Tyr Ser Tyr
                85                  90                      95
Val Pro Val Gly His Val Trp Leu Glu Gly Asp Leu Gln Asn Ser Thr
                100                 105                     110
Asp Ser Ser Tyr Tyr Gly Pro Ile Pro Tyr Glu Leu Ile Arg Gly Arg
            115                 120                     125
Ile Phe Phe Ile Arg Pro Leu Ser Asp Phe Gly Phe Leu Cys Ala Ser
        130                 135                 140
Leu Asn Gly His Arg Phe Ser Asp Asp
145                 150
```

```
<210> 6
<211> 396
<212> PRT
<213> Homo sapiens

<400> 6
Met Leu Ile Thr Val Tyr Cys Val Arg Arg Asp Leu Ser Glu Val Thr
 1               5                  10                      15
Phe Ser Leu Gln Val Ser Pro Asp Phe Glu Leu Arg Asn Phe Lys Val
                20                  25                      30
Leu Cys Glu Ala Glu Ser Arg Val Pro Val Glu Glu Ile Gln Ile Ile
            35                  40                      45
```

His Met Glu Arg Leu Leu Ile Glu Asp His Cys Ser Leu Gly Ser Tyr
    50   55   60
Gly Leu Lys Asp Gly Asp Ile Val Val Leu Leu Gln Lys Asp Asn Val
65   70   75   80
Gly Pro Arg Ala Pro Gly Arg Ala Pro Asn Gln Pro Arg Val Asp Phe
            85   90   95
Ser Gly Ile Ala Val Pro Gly Thr Ser Ser Ser Arg Pro Gln His Pro
            100   105   110
Gly Gln Gln Gln Gln Arg Thr Pro Ala Ala Gln Arg Ser Gln Gly Leu
        115   120   125
Ala Ser Gly Glu Lys Val Ala Gly Leu Gln Gly Leu Gly Ser Pro Ala
    130   135   140
Leu Ile Arg Ser Met Leu Leu Ser Asn Pro His Asp Leu Ser Leu Leu
145   150   155   160
Lys Glu Arg Asn Pro Pro Leu Ala Glu Ala Leu Leu Ser Gly Ser Leu
            165   170   175
Glu Thr Phe Ser Gln Val Leu Met Glu Gln Gln Arg Glu Lys Ala Leu
        180   185   190
Arg Glu Gln Glu Arg Leu Arg Leu Tyr Thr Ala Asp Pro Leu Asp Arg
        195   200   205
Glu Ala Gln Ala Lys Ile Glu Glu Ile Arg Gln Gln Asn Ile Glu
    210   215   220
Glu Asn Met Asn Ile Ala Ile Glu Glu Ala Pro Glu Ser Phe Gly Gln
225   230   235   240
Val Thr Met Leu Tyr Ile Asn Cys Lys Val Asn Gly His Pro Leu Lys
            245   250   255
Ala Phe Val Asp Ser Gly Ala Gln Met Thr Ile Met Ser Gln Ala Cys
            260   265   270
Ala Glu Arg Cys Asn Ile Met Arg Leu Val Asp Arg Arg Trp Ala Gly
    275   280   285
Val Ala Lys Gly Val Gly Thr Gln Arg Ile Ile Gly Arg Val His Leu
    290   295   300
Ala Gln Ile Gln Ile Glu Gly Asp Phe Leu Gln Cys Ser Phe Ser Ile
305   310   315   320
Leu Glu Asp Gln Pro Met Asp Met Leu Leu Gly Leu Asp Met Leu Arg
            325   330   335
Arg His Gln Cys Ser Ile Asp Leu Lys Lys Asn Val Leu Val Ile Gly
        340   345   350
Thr Thr Gly Thr Gln Thr Tyr Phe Leu Pro Glu Gly Glu Leu Pro Leu
        355   360   365
Cys Ser Arg Met Val Ser Gly Gln Asp Glu Ser Ser Asp Lys Glu Ile
    370   375   380
Thr His Ser Val Met Asp Ser Gly Arg Lys Glu His
385   390   395

<210> 7
<211> 469
<212> PRT
<213> Homo sapiens

<400> 7
His Gly Arg Val Leu Leu Pro Leu Asn Leu Gln Leu Gly Ala Lys Val
 1   5   10   15
Ser Phe Val Cys Asp Glu Gly Phe Arg Leu Lys Gly Arg Ser Ala Ser
            20   25   30
His Cys Val Leu Ala Gly Met Lys Ala Leu Trp Asn Ser Ser Val Pro
        35   40   45
Val Cys Glu Arg Ile Ile Cys Gly Leu Pro Pro Thr Ile Ala Asn Gly
    50   55   60
Asp Phe Thr Ser Ile Ser Arg Glu Tyr Phe His Tyr Gly Ser Val Val
65   70   75   80
Thr Tyr His Cys Asn Leu Gly Ser Arg Gly Lys Lys Val Phe Glu Leu
            85   90   95

```
Val Gly Glu Pro Ser Ile Tyr Cys Thr Ser Lys Asp Asp Gln Val Gly
            100                 105                 110
Ile Trp Ser Gly Pro Ala Pro Gln Cys Ile Ile Pro Asn Lys Cys Thr
    115                 120                 125
Pro Pro Asn Val Glu Asn Gly Ile Leu Val Ser Asp Asn Arg Ser Leu
    130                 135                 140
Phe Ser Leu Asn Glu Val Val Glu Phe Arg Cys Gln Pro Gly Phe Gly
145                 150                 155                 160
Met Lys Gly Pro Ser His Val Lys Cys Gln Ala Leu Asn Lys Trp Glu
                165                 170                 175
Pro Glu Leu Pro Ser Cys Ser Arg Val Cys Gln Pro Pro Pro Asp Val
            180                 185                 190
Leu His Ala Glu Arg Thr Gln Arg Asp Lys Asp Asn Phe Ser Pro Gly
            195                 200                 205
Gln Glu Val Phe Tyr Ser Cys Glu Pro Gly Tyr Asp Leu Arg Gly Ser
    210                 215                 220
Thr Tyr Leu His Cys Thr Pro Gln Gly Asp Trp Ser Pro Ala Ala Pro
225                 230                 235                 240
Arg Cys Glu Val Lys Ser Cys Asp Asp Phe Leu Gly Gln Leu Pro Asn
                245                 250                 255
Gly His Val Leu Phe Pro Leu Asn Leu Gln Leu Gly Ala Lys Val Asp
            260                 265                 270
Phe Val Cys Asp Glu Gly Phe Gln Leu Lys Gly Ser Ser Ala Ser Tyr
    275                 280                 285
Cys Val Leu Ala Gly Met Glu Ser Leu Trp Asn Ser Ser Val Pro Val
    290                 295                 300
Cys Glu Arg Lys Ser Cys Glu Thr Pro Pro Val Pro Val Asn Gly Met
305                 310                 315                 320
Val His Val Ile Thr Asp Ile His Val Gly Ser Arg Ile Asn Tyr Ser
                325                 330                 335
Cys Thr Thr Gly Ser Ala Ser His Cys Val Leu Ala Gly Thr Lys Ala
            340                 345                 350
Leu Trp Asn Ser Ser Val Pro Val Cys Glu Gln Ile Phe Cys Pro Asn
    355                 360                 365
Pro Pro Ala Ile Leu Asn Gly Arg His Thr Gly Thr Pro Pro Gly Asp
    370                 375                 380
Ile Pro Tyr Gly Lys Glu Val Ser Tyr Thr Cys Asp Pro His Pro Asp
385                 390                 395                 400
Arg Gly Met Thr Phe Asn Leu Ile Gly Glu Ser Thr Ile Arg Arg Thr
                405                 410                 415
Ser Glu Pro His Gly Asn Gly Val Trp Ser Ser Pro Ala Pro Arg Cys
            420                 425                 430
Glu Leu Pro Val Gly Ala Val Ile Phe Ser Thr His Leu Ile Thr Leu
            435                 440                 445
Phe Tyr Cys Leu Gly Thr Leu Leu Gly Thr Ile Ile Phe Ile Leu Ile
    450                 455                 460
Ile Ile Phe Leu Tyr
465
```

```
<210> 8
<211> 556
<212> PRT
<213> Homo sapiens

<400> 8
Gly Gly Gly Ser Pro Gly Trp Gly Cys Ala Gly Ile Pro Asp Ser Ala
 1               5                   10                  15
Pro Gly Ala Gly Val Leu Gln Ala Gly Ala Val Gly Pro Ala Arg Gly
            20                  25                  30
Gly Gln Gly Ala Glu Glu Val Gly Glu Ser Ala Gly Gly Gly Glu Glu
        35                  40                  45
Arg Arg Val Arg His Pro Gln Ala Pro Ala Leu Arg Leu Leu Asn Arg
    50                  55                  60
```

```
Lys Pro Gln Gly Gly Ser Gly Glu Ile Lys Thr Pro Glu Asn Asp Leu
65              70              75              80
Gln Arg Gly Arg Leu Ser Arg Gly Pro Arg Thr Ala Pro Pro Ala Pro
            85              90              95
Gly Met Gly Asp Arg Ser Gly Gln Gln Glu Arg Ser Val Pro His Ser
            100             105             110
Pro Gly Ala Pro Val Gly Thr Ser Ala Ala Val Asn Gly Leu Leu
        115             120             125
His Asn Gly Phe His Pro Pro Pro Val Gln Pro Pro His Val Cys Ser
        130             135             140
Arg Gly Pro Val Gly Gly Ser Asp Ala Ala Pro Gln Arg Leu Pro Leu
145             150             155             160
Leu Pro Glu Leu Gln Pro Gln Pro Leu Leu Pro Gln His Asp Ser Pro
            165             170             175
Ala Lys Lys Cys Arg Leu Arg Arg Arg Met Asp Ser Gly Arg Lys Asn
        180             185             190
Arg Pro Pro Phe Pro Trp Phe Gly Met Asp Ile Gly Gly Thr Leu Val
        195             200             205
Lys Leu Val Tyr Phe Glu Pro Lys Asp Ile Thr Ala Glu Glu Glu Gln
210             215             220
Glu Glu Val Glu Asn Leu Lys Ser Ile Arg Lys Tyr Leu Thr Ser Asn
225             230             235             240
Thr Ala Tyr Gly Lys Thr Gly Ile Arg Asp Val His Leu Glu Leu Lys
            245             250             255
Asn Leu Thr Met Cys Gly Arg Lys Gly Asn Leu His Phe Ile Arg Phe
            260             265             270
Pro Ser Cys Ala Met His Arg Phe Ile Gln Met Gly Ser Glu Lys Asn
        275             280             285
Phe Ser Ser Leu His Thr Thr Leu Cys Ala Thr Gly Gly Gly Ala Phe
        290             295             300
Lys Phe Glu Glu Asp Phe Arg Met Ile Ala Asp Leu Gln Leu His Lys
305             310             315             320
Leu Asp Glu Leu Asp Cys Leu Ile Gln Gly Leu Leu Tyr Val Asp Ser
            325             330             335
Val Gly Phe Asn Gly Lys Pro Glu Cys Tyr Tyr Phe Glu Asn Pro Thr
            340             345             350
Asn Pro Glu Leu Cys Gln Lys Lys Pro Tyr Cys Leu Asp Asn Pro Tyr
        355             360             365
Pro Met Leu Leu Val Asn Met Gly Ser Gly Val Ser Ile Leu Ala Val
    370             375             380
Tyr Ser Lys Asp Asn Tyr Lys Arg Val Thr Gly Thr Ser Leu Gly Gly
385             390             395             400
Gly Thr Phe Leu Gly Leu Cys Cys Leu Leu Thr Gly Cys Glu Thr Phe
            405             410             415
Glu Glu Ala Leu Glu Met Ala Ala Lys Gly Asp Ser Thr Asn Val Asp
        420             425             430
Lys Leu Val Lys Asp Ile Tyr Gly Gly Asp Tyr Glu Arg Phe Gly Leu
        435             440             445
Gln Gly Ser Ala Val Ala Ser Ser Phe Gly Asn Met Met Ser Lys Glu
    450             455             460
Lys Arg Asp Ser Ile Ser Lys Glu Asp Leu Ala Arg Ala Thr Leu Val
465             470             475             480
Thr Ile Thr Asn Asn Ile Gly Ser Ile Ala Arg Met Cys Ala Leu Asn
            485             490             495
Glu Asn Ile Asp Arg Val Val Phe Val Gly Asn Phe Leu Arg Ile Asn
        500             505             510
Met Val Ser Met Lys Leu Leu Ala Tyr Ala Met Asp Phe Trp Ser Lys
        515             520             525
Gly Gln Leu Lys Ala Leu Phe Leu Glu His Glu Gly Tyr Phe Gly Ala
    530             535             540
Val Gly Ala Leu Leu Glu Leu Phe Lys Met Thr Asp
545             550             555
```

<210> 9
<211> 993
<212> PRT
<213> Homo sapiens

<400> 9
Met Arg Pro Val Ala Leu Leu Leu Pro Ser Leu Leu Ala Leu Leu
 1   5   10   15
Ala His Gly Leu Ser Leu Glu Ala Pro Thr Val Gly Lys Gly Gln Ala
            20   25   30
Pro Gly Ile Glu Glu Thr Asp Gly Glu Leu Thr Ala Ala Pro Thr Pro
            35   40   45
Glu Gln Pro Glu Arg Gly Val His Phe Val Thr Thr Ala Pro Thr Leu
    50   55   60
Lys Leu Leu Asn His His Pro Leu Leu Glu Glu Phe Leu His Glu Gly
65   70   75   80
Leu Glu Lys Gly Asp Glu Glu Leu Arg Pro Ala Leu Ser Phe Gln Pro
                85   90   95
Asp Pro Pro Ala Pro Phe Thr Pro Ser Ala Leu Pro Arg Leu Ala Asn
                100   105   110
Gln Asp Ser Arg Pro Val Phe Thr Ser Pro Thr Pro Ala Met Gly Ala
            115   120   125
Val Pro Thr Gln Pro Gln Ser Lys Glu Gly Pro Trp Ser Pro Glu Ser
    130   135   140
Glu Ser Pro Met Leu Arg Ile Thr Ala Pro Leu Pro Pro Gly Pro Ser
145   150   155   160
Met Ala Val Pro Thr Leu Gly Pro Gly Glu Ile Ala Ser Thr Thr Pro
                165   170   175
Pro Ser Arg Ala Trp Thr Pro Thr Gln Glu Gly Pro Gly Asp Met Gly
                180   185   190
Arg Pro Trp Val Ala Glu Val Val Ser Gln Gly Ala Gly Ile Gly Ile
        195   200   205
Gln Gly Thr Ile Thr Ser Ser Thr Ala Ser Gly Asp Asp Glu Glu Thr
    210   215   220
Thr Thr Thr Thr Thr Ile Ile Thr Thr Thr Ile Thr Thr Val Gln Thr
225   230   235   240
Pro Gly Pro Cys Ser Trp Asn Phe Ser Gly Pro Glu Gly Ser Leu Asp
                245   250   255
Ser Pro Thr Asp Leu Ser Ser Pro Thr Asp Val Gly Leu Asp Cys Phe
                260   265   270
Phe Tyr Ile Ser Val Tyr Pro Gly Tyr Gly Val Glu Ile Lys Val Gln
        275   280   285
Asn Ile Ser Leu Arg Glu Gly Glu Thr Val Thr Val Glu Gly Leu Gly
    290   295   300
Gly Pro Asp Pro Leu Pro Leu Ala Asn Gln Ser Phe Leu Leu Arg Gly
305   310   315   320
Gln Val Ile Arg Ser Pro Thr His Gln Ala Ala Leu Arg Phe Gln Ser
                325   330   335
Leu Pro Pro Pro Ala Gly Pro Gly Thr Phe His Phe His Tyr Gln Ala
                340   345   350
Tyr Leu Leu Ser Cys His Phe Pro Arg Arg Pro Ala Tyr Gly Asp Val
        355   360   365
Thr Val Thr Ser Leu His Pro Gly Gly Ser Ala Arg Phe His Cys Ala
    370   375   380
Thr Gly Tyr Gln Leu Lys Gly Ala Arg His Leu Thr Cys Leu Asn Ala
385   390   395   400
Thr Gln Pro Phe Trp Asp Ser Lys Glu Pro Val Cys Ile Ala Ala Cys
                405   410   415
Gly Gly Val Ile Arg Asn Ala Thr Thr Gly Arg Ile Val Ser Pro Gly
                420   425   430
Phe Pro Gly Asn Tyr Ser Asn Asn Leu Thr Cys His Trp Leu Leu Glu
            435   440   445
Ala Pro Glu Gly Gln Arg Leu His Leu His Phe Glu Lys Val Ser Leu

```
            450                     455                     460
Ala Glu Asp Asp Asp Arg Leu Ile Ile Arg Asn Gly Asp Asn Val Glu
465                     470                     475                     480
Ala Pro Pro Val Tyr Asp Ser Tyr Glu Val Glu Tyr Leu Pro Ile Glu
                    485                     490                     495
Gly Leu Leu Ser Ser Gly Lys His Phe Phe Val Glu Leu Ser Thr Asp
                500                     505                     510
Ser Ser Gly Ala Ala Ala Gly Met Ala Leu Arg Tyr Glu Ala Phe Gln
            515                     520                     525
Gln Gly His Cys Tyr Glu Pro Phe Val Lys Tyr Gly Asn Phe Ser Ser
        530                     535                     540
Ser Thr Pro Thr Tyr Pro Val Gly Thr Thr Val Glu Phe Ser Cys Asp
545                     550                     555                     560
Pro Gly Tyr Thr Leu Glu Gln Gly Ser Ile Ile Ile Glu Cys Val Asp
                565                     570                     575
Pro His Asp Pro Gln Trp Asn Glu Thr Glu Pro Ala Cys Arg Ala Val
            580                     585                     590
Cys Ser Gly Glu Ile Thr Asp Ser Ala Gly Val Val Leu Pro Thr Glu
            595                     600                     605
Pro Glu Pro Tyr Gly Arg Gly Gln Asp Ser Ile Trp Gly Val His Val
        610                     615                     620
Glu Glu Asp Lys Arg Ile Met Leu Asp Ile Arg Val Leu Arg Ile Gly
625                     630                     635                     640
Pro Gly Asp Val Leu Thr Phe Tyr Asp Gly Asp Asp Leu Thr Ala Arg
                645                     650                     655
Val Leu Gly Gln Tyr Ser Gly Pro Arg Ser His Phe Lys Leu Phe Thr
                660                     665                     670
Ser Met Ala Asp Val Thr Ile Gln Phe Gln Ser Asp Pro Gly Thr Ser
        675                     680                     685
Val Leu Gly Tyr Gln Gln Gly Phe Val Ile His Phe Phe Glu Val Pro
        690                     695                     700
Arg Asn Asp Thr Cys Pro Glu Leu Pro Glu Ile Pro Asn Gly Trp Lys
705                     710                     715                     720
Ser Pro Ser Gln Pro Glu Leu Val His Gly Thr Val Val Thr Tyr Gln
                725                     730                     735
Cys Tyr Pro Gly Tyr Gln Val Val Gly Ser Ser Val Leu Met Cys Gln
            740                     745                     750
Trp Asp Leu Thr Trp Ser Glu Asp Leu Pro Ser Cys Gln Arg Val Thr
        755                     760                     765
Ser Cys His Asp Pro Gly Asp Val Glu His Ser Arg Arg Leu Ile Ser
        770                     775                     780
Ser Pro Lys Phe Pro Val Gly Ala Thr Val Gln Tyr Ile Cys Asp Gln
785                     790                     795                     800
Gly Phe Val Leu Met Gly Ser Ser Ile Leu Thr Cys His Asp Arg Gln
                805                     810                     815
Ala Gly Ser Pro Lys Trp Ser Asp Arg Ala Pro Lys Cys Leu Leu Glu
            820                     825                     830
Gln Leu Lys Pro Cys His Gly Leu Ser Ala Pro Glu Asn Gly Ala Arg
        835                     840                     845
Ser Pro Glu Lys Gln Leu His Pro Ala Gly Ala Thr Ile His Phe Ser
    850                     855                     860
Cys Ala Pro Gly Tyr Val Leu Lys Gly Gln Ala Ser Ile Lys Cys Val
865                     870                     875                     880
Pro Gly His Pro Ser His Trp Ser Asp Pro Pro Pro Ile Cys Arg Ala
                885                     890                     895
Ala Ser Leu Asp Gly Phe Tyr Asn Ser Arg Ser Leu Asp Val Ala Lys
            900                     905                     910
Ala Pro Ala Ala Ser Ser Thr Leu Asp Ala Ala His Ile Ala Ala Ala
        915                     920                     925
Ile Phe Leu Pro Leu Val Ala Met Val Leu Leu Val Gly Gly Val Tyr
    930                     935                     940
Phe Tyr Phe Ser Arg Leu Gln Gly Lys Ser Ser Leu Gln Leu Pro Arg
945                     950                     955                     960
```

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Pro Arg Pro Arg Pro Tyr Asn Arg Ile Thr Ile Glu Ser Ala Phe Asp
              965   970   975
Asn Pro Thr Tyr Glu Thr Gly Ser Leu Ser Phe Ala Gly Asp Glu Arg
              980   985   990
Ile

<210> 10
<211> 276
<212> PRT
<213> Homo sapiens

<400> 10
Glu Lys Ala Leu Ala Leu Thr Gly Asn Gln Gly Ile Glu Ala Ala Met
 1   5   10   15
Asp Trp Leu Met Glu His Glu Asp Asp Pro Asp Val Asp Glu Pro Leu
              20   25   30
Glu Thr Pro Leu Val Thr Tyr Pro Gly Glu Pro Thr Ser Ser Glu Gln
              35   40   45
Gly Gly Leu Glu Gly Ser Gly Ser Ala Ala Gly Glu Gly Lys Pro Ala
        50   55   60
Leu Ser Glu Glu Glu Arg Gln Glu Gln Thr Lys Arg Met Leu Glu Leu
65   70   75   80
Val Ala Gln Lys Gln Arg Glu Arg Glu Glu Arg Glu Glu Arg Glu Ala
              85   90   95
Leu Glu Arg Glu Arg Gln Arg Arg Gln Gly Gln Glu Leu Ser Ala
              100   105   110
Ala Arg Gln Arg Leu Gln Glu Asp Glu Met Arg Arg Ala Ala Glu Glu
              115   120   125
Arg Arg Arg Glu Lys Ala Glu Glu Leu Ala Ala Arg Gln Arg Val Arg
        130   135   140
Glu Lys Ile Glu Arg Asp Lys Ala Glu Arg Ala Lys Lys Tyr Gly Gly
145   150   155   160
Ser Val Gly Ser Gln Pro Pro Pro Val Ala Pro Glu Pro Gly Pro Val
              165   170   175
Pro Ser Ser Pro Ser Gln Glu Pro Pro Pro Lys Arg Glu Tyr Asp Gln
              180   185   190
Cys Arg Ile Gln Val Arg Leu Pro Asp Gly Thr Ser Leu Thr Gln Thr
        195   200   205
Phe Arg Ala Arg Glu Gln Leu Ala Ala Val Arg Leu Tyr Val Glu Leu
        210   215   220
His Arg Gly Glu Glu Leu Gly Gly Gly Gln Asp Pro Val Gln Leu Leu
225   230   235   240
Ser Gly Phe Pro Arg Arg Ala Phe Ser Glu Ala Asp Met Glu Arg Pro
              245   250   255
Leu Gln Glu Leu Gly Leu Val Pro Ser Ala Val Leu Ile Val Ala Lys
              260   265   270
Lys Cys Pro Ser
        275

<210> 11
<211> 241
<212> PRT
<213> Homo sapiens

<400> 11
Ser Leu His Leu Ser Glu Arg Ala Asp Trp Gln Tyr Ser Gln Arg Glu
 1   5   10   15
Leu Asp Ala Val Glu Val Phe Phe Ser Arg Thr Ala Arg Asp Asn Arg
              20   25   30
Leu Gly Cys Met Phe Val Arg Cys Ala Pro Ser Ser Arg Tyr Thr Leu
        35   40   45
Leu Phe Ser His Gly Asn Ala Val Asp Leu Gly Gln Met Cys Ser Phe

```
      50                    55                    60
Tyr Ile Gly Leu Gly Ser Arg Ile Asn Cys Asn Ile Phe Ser Tyr Asp
65                    70                    75                    80
Tyr Ser Gly Tyr Gly Val Ser Ser Gly Lys Pro Ser Glu Lys Asn Leu
                  85                    90                    95
Tyr Ala Asp Ile Asp Ala Ala Trp Gln Ala Leu Arg Thr Arg Tyr Gly
              100                   105                   110
Val Ser Pro Glu Asn Ile Ile Leu Tyr Gly Gln Ser Ile Gly Thr Val
              115                   120                   125
Pro Thr Val Asp Leu Ala Ser Arg Tyr Glu Cys Ala Ala Val Ile Leu
          130                   135                   140
His Ser Pro Leu Met Ser Gly Leu Arg Val Ala Phe Pro Asp Thr Arg
145                   150                   155                   160
Lys Thr Tyr Cys Phe Asp Ala Phe Pro Ser Ile Asp Lys Ile Ser Lys
              165                   170                   175
Val Thr Ser Pro Val Leu Val Ile His Gly Thr Glu Asp Glu Val Ile
              180                   185                   190
Asp Phe Ser His Gly Leu Ala Met Tyr Glu Arg Cys Pro Arg Ala Val
          195                   200                   205
Glu Pro Leu Trp Val Glu Gly Ala Gly His Asn Asp Ile Glu Leu Tyr
      210                   215                   220
Ala Gln Tyr Leu Glu Arg Leu Lys Gln Phe Ile His Glu Leu Pro Asn
225                   230                   235                   240
Ser
```

```
<210> 12
<211> 420
<212> PRT
<213> Homo sapiens

<400> 12
Met Thr Met Glu Lys Gly Met Ser Ser Gly Glu Gly Leu Pro Ser Arg
  1               5                    10                   15
Ser Ser Gln Val Ser Ala Gly Lys Ile Thr Ala Lys Glu Leu Glu Thr
              20                    25                    30
Lys Gln Ser Tyr Lys Glu Lys Arg Gly Gly Phe Val Leu Val His Ala
          35                    40                    45
Gly Ala Gly Tyr His Ser Glu Ser Lys Ala Lys Glu Tyr Lys His Val
      50                    55                    60
Cys Lys Arg Ala Cys Gln Lys Ala Ile Glu Lys Leu Gln Ala Gly Ala
65                    70                    75                    80
Leu Ala Thr Asp Ala Val Thr Ala Ala Leu Val Glu Leu Glu Asp Ser
                  85                    90                    95
Pro Phe Thr Asn Ala Gly Met Gly Ser Asn Leu Asn Leu Leu Gly Glu
              100                   105                   110
Ile Glu Cys Asp Ala Ser Ile Met Asp Gly Lys Ser Leu Asn Phe Gly
          115                   120                   125
Ala Val Gly Ala Leu Ser Gly Ile Lys Asn Pro Val Ser Val Ala Asn
          130                   135                   140
Arg Leu Leu Cys Glu Gly Gln Lys Gly Lys Leu Ser Ala Gly Arg Ile
145                   150                   155                   160
Pro Pro Cys Phe Leu Val Gly Glu Gly Ala Tyr Arg Trp Ala Val Asp
              165                   170                   175
His Gly Ile Pro Ser Cys Pro Pro Asn Ile Met Thr Thr Arg Phe Ser
              180                   185                   190
Leu Ala Ala Phe Lys Arg Asn Lys Arg Lys Leu Glu Leu Ala Glu Arg
          195                   200                   205
Val Asp Thr Asp Phe Met Gln Leu Lys Lys Arg Arg Gln Ser Ser Glu
          210                   215                   220
Lys Glu Asn Asp Ser Gly Thr Leu Asp Thr Val Gly Ala Val Val Val
225                   230                   235                   240
Asp His Glu Gly Asn Val Ala Ala Ala Val Ser Ser Gly Gly Leu Ala
```

```
                     245                 250                       255
Leu Lys His Pro Gly Arg Val Gly Gln Ala Ala Leu Tyr Gly Cys Gly
            260                 265                 270
Cys Trp Ala Glu Asn Thr Gly Ala His Asn Pro Tyr Ser Thr Ala Val
            275                 280                 285
Ser Thr Ser Gly Cys Gly Glu His Leu Val Arg Thr Ile Leu Ala Arg
        290                 295                 300
Glu Cys Ser His Ala Leu Gln Ala Glu Asp Ala His Gln Ala Leu Leu
305                 310                 315                     320
Glu Thr Met Gln Asn Lys Phe Ile Ser Ser Pro Phe Leu Ala Ser Glu
                325                 330                     335
Asp Gly Val Leu Gly Gly Val Ile Val Leu Arg Ser Cys Arg Cys Ser
            340                 345                 350
Ala Glu Pro Asp Ser Ser Gln Asn Lys Gln Thr Leu Leu Val Glu Phe
            355                 360                 365
Leu Trp Ser His Thr Thr Glu Ser Met Cys Val Gly Tyr Met Ser Ala
        370                 375                 380
Gln Asp Gly Lys Ala Lys Thr His Ile Ser Arg Leu Pro Pro Gly Ala
385                 390                 395                     400
Val Ala Gly Gln Ser Val Ala Ile Glu Gly Gly Val Cys Arg Leu Glu
                405                 410                     415
Ser Pro Val Asn
                420
```

<210> 13
<211> 381
<212> PRT
<213> Homo sapiens

<400> 13
```
Lys Ile Lys Asp Cys Tyr Gly Leu Gly Ser Gly Gln Asn His Phe Ile
1               5                   10                      15
Lys Asp Ser Gln Trp Glu Gln Gln Ala Glu Ile Phe Asn Ala Ser Tyr
            20                  25                  30
Lys Lys Tyr Leu Asp Arg Glu Trp Glu Glu Pro Leu Ser Thr Ala
        35                  40                  45
Thr Phe Tyr Phe Leu Leu Pro Ser Cys Leu Phe Ala Met Pro Pro Glu
    50                  55                  60
Val Lys Gly Pro Ser Gly Met Ala Cys Val Leu Gly Ile His Trp Thr
65                  70                  75                      80
Arg Ser His Asn Phe Phe Leu Tyr Ser Leu Asn Arg Thr Leu Lys Asp
                85                  90                  95
Lys Ala Asp Pro Glu Gly Val Trp Pro Cys Ala Ala Pro Ile Ala Val
            100                 105                 110
Ser Gln Leu Ser Cys Ser Ser Ser Tyr Leu Val Leu Ala Cys Glu Asp
        115                 120                 125
Gly Val Leu Thr Leu Trp Asp Leu Ala Lys Gly Phe Pro Leu Gly Val
    130                 135                 140
Ala Ala Leu Pro Gln Gly Cys Phe Cys Gln Ser Ile His Phe Leu Lys
145                 150                 155                     160
Tyr Phe Ser Val His Lys Gly Gln Asn Met Tyr Pro Glu Gly Gln Val
                165                 170                 175
Lys Ser Gln Met Lys Cys Val Val Leu Cys Thr Asp Ala Ser Leu His
            180                 185                 190
Leu Val Glu Ala Ser Gly Thr Gln Gly Pro Thr Ile Ser Val Leu Val
        195                 200                 205
Glu Arg Pro Val Lys His Leu Asp Lys Thr Ile Cys Ala Val Ala Pro
    210                 215                 220
Val Pro Ala Leu Pro Gly Met Val Leu Ile Phe Ser Lys Asn Gly Ser
225                 230                 235                     240
Val Cys Leu Met Asp Val Ala Lys Arg Glu Ile Ile Cys Ala Phe Ala
                245                 250                 255
Pro Pro Gly Ala Phe Pro Leu Glu Val Pro Trp Lys Pro Val Phe Ala
```

```
                260                    265                    270
Val Ser Pro Asp His Pro Cys Phe Leu Leu Arg Gly Asp Tyr Ser His
        275                    280                    285
Glu Thr Ala Ser Thr Asp Asp Ala Gly Ile Gln Tyr Ser Val Phe Tyr
    290                    295                    300
Phe Asn Phe Glu Ala Cys Pro Leu Leu Glu Asn Ile Ser Lys Asn Cys
305                    310                    315                    320
Thr Ile Pro Gln Arg Asp Leu Asp Asn Met Ala Phe Pro Gln Ala Leu
            325                    330                    335
Pro Leu Glu Lys Arg Cys Glu Arg Phe Leu Gln Lys Ser Tyr Arg Lys
        340                    345                    350
Leu Glu Lys Asn Pro Glu Lys Glu Glu His Trp Ala Arg Leu Gln
        355                    360                    365
Arg Tyr Ser Leu Ser Leu Gln Arg Glu Asn Phe Lys Lys
    370                    375                    380
```

<210> 14
<211> 108
<212> PRT
<213> Homo sapiens

<400> 14
```
Met Gly Lys Gly Tyr Tyr Leu Lys Gly Lys Ile Gly Lys Val Pro Val
1               5                   10                  15
Arg Phe Leu Val Asp Ser Gly Ala Gln Val Ser Val Val His Pro Asn
            20                  25                  30
Leu Trp Glu Glu Val Thr Asp Gly Asp Leu Asp Thr Leu Gln Pro Phe
        35                  40                  45
Glu Asn Val Val Lys Val Ala Asn Gly Ala Glu Met Lys Ile Leu Gly
    50                  55                  60
Val Trp Asp Thr Ala Val Ser Leu Gly Lys Leu Lys Leu Lys Ala Gln
65                  70                  75                  80
Phe Leu Val Ala Asn Ala Ser Ala Glu Glu Ala Ile Ile Gly Thr Asp
            85                  90                  95
Leu Gln Asp His Asn Ala Ile Leu Asp Phe Glu His
            100                    105
```

<210> 15
<211> 522
<212> PRT
<213> Homo sapiens

<400> 15
```
Met Ser Phe Ile Cys Gly Leu Gln Ser Ala Ala Arg Asn His Val Phe
1               5                   10                  15
Phe Arg Phe Asn Ser Leu Ser Asn Trp Arg Lys Cys Asn Thr Leu Ala
            20                  25                  30
Ser Thr Ser Arg Gly Cys His Gln Val Gln Val Asn His Ile Val Asn
        35                  40                  45
Lys Tyr Gln Gly Leu Gly Val Asn Gln Cys Asp Arg Trp Ser Phe Leu
    50                  55                  60
Pro Gly Asn Phe His Phe Tyr Ser Thr Phe Asn Asn Lys Arg Thr Gly
65                  70                  75                  80
Gly Leu Ser Ser Thr Lys Ser Lys Glu Ile Trp Arg Ile Thr Ser Lys
            85                  90                  95
Cys Thr Val Trp Asn Asp Ala Phe Ser Arg Gln Leu Leu Ile Lys Glu
            100                    105                    110
Val Thr Ala Val Pro Ser Leu Ser Val Leu His Pro Leu Ser Pro Ala
        115                    120                    125
Ser Ile Arg Ala Ile Arg Asn Phe His Thr Ser Pro Arg Phe Gln Ala
    130                    135                    140
Ala Pro Val Pro Leu Leu Leu Met Ile Leu Lys Pro Val Gln Lys Leu
145                    150                    155                    160
```

```
Phe Ala Ile Ile Val Gly Arg Gly Ile Arg Lys Trp Trp Gln Ala Leu
            165             170             175
Pro Pro Asn Lys Lys Glu Val Val Lys Glu Asn Ile Arg Lys Asn Lys
            180             185             190
Trp Lys Leu Phe Leu Gly Leu Ser Ser Phe Gly Leu Leu Phe Val Val
        195             200             205
Phe Tyr Phe Thr His Leu Glu Val Ser Pro Ile Thr Gly Arg Ser Lys
    210             215             220
Leu Leu Leu Leu Gly Lys Glu Gln Phe Arg Leu Leu Ser Glu Leu Glu
225             230             235             240
Tyr Glu Ala Trp Met Glu Glu Phe Lys Asn Asp Met Leu Thr Glu Lys
            245             250             255
Asp Ala Arg Tyr Leu Ala Val Lys Glu Val Leu Cys His Leu Ile Glu
            260             265             270
Cys Asn Lys Asp Val Pro Gly Ile Ser Gln Ile Asn Trp Val Ile His
        275             280             285
Val Val Asp Ser Pro Ile Ile Asn Ala Phe Val Leu Pro Asn Gly Gln
    290             295             300
Met Phe Val Phe Thr Gly Phe Leu Asn Ser Val Thr Asp Ile His Gln
305             310             315             320
Leu Ser Phe Leu Leu Gly His Glu Ile Ala His Ala Val Leu Gly His
            325             330             335
Ala Ala Glu Lys Ala Gly Met Val His Leu Leu Asp Phe Leu Gly Met
            340             345             350
Ile Phe Leu Thr Met Ile Trp Ala Ile Cys Pro Arg Asp Ser Leu Ala
            355             360             365
Leu Leu Cys Gln Trp Ile Gln Ser Lys Leu Gln Glu Tyr Met Phe Asn
    370             375             380
Arg Pro Tyr Ser Arg Lys Leu Glu Ala Glu Ala Asp Lys Ile Gly Leu
385             390             395             400
Leu Leu Ala Ala Lys Ala Cys Ala Asp Ile Arg Ala Ser Ser Val Phe
            405             410             415
Trp Gln Gln Met Glu Phe Val Asp Ser Leu His Gly Gln Pro Lys Met
            420             425             430
Pro Glu Trp Leu Ser Thr His Pro Ser His Gly Asn Arg Val Glu Tyr
        435             440             445
Leu Asp Arg Leu Ile Pro Gln Ala Leu Lys Ile Arg Glu Met Cys Asn
    450             455             460
Cys Pro Pro Leu Ser Asn Pro Asp Pro Arg Leu Leu Phe Lys Leu Ser
465             470             475             480
Thr Lys His Phe Leu Glu Glu Ser Glu Lys Glu Asp Leu Asn Ile Thr
            485             490             495
Lys Lys Gln Lys Met Asp Thr Leu Pro Ile Gln Lys Gln Glu Gln Ile
            500             505             510
Pro Leu Thr Tyr Ile Val Glu Lys Arg Thr
            515             520
```

```
<210> 16
<211> 285
<212> PRT
<213> Homo sapiens
```

```
<400> 16
Met Asn Asn Leu Ser Phe Ser Glu Leu Cys Cys Leu Phe Cys Cys Pro
1               5               10              15
Pro Cys Pro Gly Lys Ile Ala Ser Lys Leu Ala Phe Leu Pro Pro Asp
            20              25              30
Pro Thr Tyr Thr Leu Met Cys Asp Glu Ser Gly Ser Arg Trp Thr Leu
        35              40              45
His Leu Ser Glu Arg Ala Asp Trp Gln Tyr Ser Ser Arg Glu Lys Asp
    50              55              60
Ala Ile Glu Cys Phe Met Thr Arg Thr Ser Lys Gly Asn Arg Ile Ala
65              70              75              80
```

Cys Met Phe Val Arg Cys Ser Pro Asn Ala Lys Tyr Thr Leu Leu Phe
            85   90   95
Ser His Gly Asn Ala Val Asp Leu Gly Gln Met Ser Ser Phe Tyr Ile
            100   105   110
Gly Leu Gly Ser Arg Ile Asn Cys Asn Ile Phe Ser Tyr Asp Tyr Ser
            115   120   125
Gly Tyr Gly Ala Ser Ser Gly Lys Pro Thr Glu Lys Asn Leu Tyr Ala
            130   135   140
Asp Ile Glu Ala Ala Trp Leu Ala Leu Arg Thr Arg Tyr Ile Arg Pro
145   150   155   160
Glu Asn Val Ile Ile Tyr Gly Gln Ser Ile Gly Thr Val Pro Ser Val
            165   170   175
Asp Leu Ala Ala Arg Tyr Glu Ser Ala Ala Val Ile Leu His Ser Pro
            180   185   190
Leu Thr Ser Gly Met Arg Val Ala Phe Pro Asp Thr Lys Lys Thr Tyr
            195   200   205
Cys Phe Asp Ala Phe Pro Asn Ile Asp Lys Ile Ser Lys Ile Thr Ser
210   215   220
Pro Val Leu Ile Ile His Gly Thr Glu Asp Glu Val Ile Asp Phe Ser
225   230   235   240
His Gly Leu Ala Leu Phe Glu Arg Cys Gln Arg Pro Val Glu Pro Leu
            245   250   255
Trp Val Glu Gly Ala Gly His Asn Asp Val Glu Leu Tyr Gly Gln Tyr
            260   265   270
Leu Glu Arg Leu Lys Gln Phe Val Ser Gln Glu Leu Val
            275   280   285

<210> 17
<211> 1513
<212> PRT
<213> Homo sapiens

<400> 17
Gly Ser Gly Cys Leu Gly Ala Glu Lys Arg Glu Gly Lys Asn Arg Trp
1   5   10   15
Gln Gly Glu Ala Ser Met Glu Arg Leu Leu Ala Gln Leu Cys Gly Ser
            20   25   30
Ser Ala Ala Trp Pro Leu Pro Leu Trp Glu Gly Asp Thr Thr Gly His
            35   40   45
Cys Phe Thr Gln Leu Val Leu Ser Ala Leu Pro His Ala Leu Leu Ala
            50   55   60
Val Leu Ser Ala Cys Tyr Leu Gly Thr Pro Arg Ser Pro Asp Tyr Ile
65   70   75   80
Leu Pro Cys Ser Pro Gly Trp Arg Leu Arg Leu Ala Ala Ser Phe Leu
            85   90   95
Leu Ser Val Phe Pro Leu Leu Asp Leu Leu Pro Val Ala Leu Pro Pro
            100   105   110
Gly Ala Gly Pro Gly Pro Ile Gly Leu Glu Val Leu Ala Gly Cys Val
            115   120   125
Ala Ala Val Ala Trp Ile Ser His Ser Leu Ala Leu Trp Val Leu Ala
            130   135   140
His Ser Pro His Gly His Ser Arg Gly Pro Leu Ala Leu Ala Leu Val
145   150   155   160
Ala Leu Leu Pro Ala Pro Ala Leu Val Leu Thr Val Leu Trp His Cys
            165   170   175
Gln Arg Gly Thr Leu Leu Pro Pro Leu Pro Gly Pro Met Ala Arg
            180   185   190
Leu Cys Leu Leu Ile Leu Gln Leu Ala Ala Leu Leu Ala Tyr Ala Leu
            195   200   205
Gly Trp Ala Ala Pro Gly Gly Pro Arg Glu Pro Trp Ala Gln Glu Pro
            210   215   220
Leu Leu Pro Glu Asp Gln Glu Pro Glu Val Ala Glu Asp Gly Glu Ser
225   230   235   240

```
Trp Leu Ser Arg Phe Ser Tyr Ala Trp Leu Ala Pro Leu Leu Ala Arg
            245             250             255
Gly Ala Cys Gly Glu Leu Arg Gln Pro Gln Asp Ile Cys Arg Leu Pro
            260             265             270
His Arg Leu Gln Pro Thr Tyr Leu Ala Arg Val Phe Gln Ala His Trp
        275             280             285
Gln Glu Gly Ala Arg Leu Trp Arg Ala Leu Tyr Gly Ala Phe Gly Arg
    290             295             300
Cys Tyr Leu Ala Leu Gly Leu Leu Lys Leu Val Gly Thr Met Leu Gly
305             310             315             320
Phe Ser Gly Pro Leu Leu Leu Ser Leu Leu Val Gly Phe Leu Glu Glu
            325             330             335
Gly Gln Glu Pro Leu Ser His Gly Leu Leu Tyr Ala Leu Gly Leu Ala
            340             345             350
Gly Gly Ala Val Leu Gly Ala Val Leu Gln Asn Gln Tyr Gly Tyr Glu
            355             360             365
Val Tyr Lys Val Thr Leu Gln Ala Arg Gly Ala Val Leu Asn Ile Leu
    370             375             380
Tyr Cys Lys Ala Leu Gln Leu Gly Pro Ser Arg Pro Pro Thr Gly Glu
385             390             395             400
Ala Leu Asn Leu Leu Gly Thr Asp Ser Glu Arg Leu Leu Asn Phe Ala
            405             410             415
Gly Ser Phe His Glu Ala Trp Gly Leu Pro Leu Gln Leu Ala Ile Thr
            420             425             430
Leu Tyr Leu Leu Tyr Gln Gln Val Gly Val Ala Phe Val Gly Gly Leu
            435             440             445
Ile Leu Ala Leu Leu Leu Val Pro Val Asn Lys Val Ile Ala Thr Arg
    450             455             460
Ile Met Ala Ser Asn Gln Glu Met Leu Gln His Lys Asp Ala Arg Val
465             470             475             480
Lys Leu Val Thr Glu Leu Leu Ser Gly Ile Arg Val Ile Lys Phe Cys
            485             490             495
Gly Trp Glu Gln Ala Leu Gly Ala Arg Val Glu Ala Cys Arg Ala Arg
            500            · 505             510
Glu Leu Gly Arg Leu Arg Val Ile Lys Tyr Leu Asp Ala Ala Cys Val
    515             520             525
Tyr Leu Trp Ala Ala Leu Pro Val Val Ile Ser Ile Val Ile Phe Ile
    530             535             540
Thr Tyr Val Leu Met Gly His Gln Leu Thr Ala Thr Lys Val Phe Thr
545             550             555             560
Ala Leu Ala Leu Val Arg Met Leu Ile Leu Pro Leu Asn Asn Phe Pro
            565             570             575
Trp Val Ile Asn Gly Leu Leu Glu Ala Lys Val Ser Leu Asp Arg Ile
            580             585             590
Gln Leu Phe Leu Asp Leu Pro Asn His Asn Pro Gln Ala Tyr Tyr Ser
    595             600             605
Pro Asp Pro Pro Ala Glu Pro Ser Thr Val Leu Glu Leu His Gly Ala
    610             615             620
Leu Phe Ser Trp Asp Pro Val Gly Thr Ser Leu Glu Thr Phe Ile Ser
625             630             635             640
His Leu Glu Val Lys Lys Gly Met Leu Val Gly Ile Val Gly Lys Val
            645             650             655
Gly Cys Gly Lys Ser Ser Leu Leu Ala Ala Ile Ala Gly Glu Leu His
            660             665             670
Arg Leu Arg Gly His Val Ala Val Arg Gly Leu Ser Lys Gly Phe Gly
    675             680             685
Leu Ala Thr Gln Glu Pro Trp Ile Gln Phe Ala Thr Ile Arg Asp Asn
    690             695             700
Ile Leu Phe Gly Lys Thr Phe Asp Ala Gln Leu Tyr Lys Glu Val Leu
705             710             715             720
Glu Ala Cys Ala Leu Asn Asp Asp Leu Ser Ile Leu Pro Ala Gly Asp
    ·           725             730             735
Gln Thr Glu Val Gly Glu Lys Gly Val Thr Leu Ser Gly Gly Gln Arg
```

```
              740                    745                    750
Ala Arg Ile Ala Leu Ala Arg Ala Val Tyr Gln Glu Lys Glu Leu Tyr
         755                    760                    765
Leu Leu Asp Asp Pro Leu Ala Ala Val Asp Ala Asp Val Ala Asn His
         770                    775                    780
Leu Leu His Arg Cys Ile Leu Gly Met Leu Ser Tyr Thr Thr Arg Leu
785                    790                    795                    800
Leu Cys Thr His Arg Thr Glu Tyr Leu Glu Arg Ala Asp Ala Val Leu
                  805                    810                    815
Leu Met Glu Ala Gly Arg Leu Ile Arg Ala Gly Pro Pro Ser Glu Ile
             820                    825                    830
Leu Pro Leu Val Gln Ala Val Pro Lys Ala Trp Ala Glu Asn Gly Gln
             835                    840                    845
Glu Ser Asp Ser Ala Thr Ala Gln Ser Val Gln Asn Pro Glu Lys Thr
         850                    855                    860
Lys Glu Gly Leu Glu Glu Gln Ser Thr Ser Gly Arg Leu Leu Gln
865                    870                    875                    880
Glu Glu Ser Lys Lys Glu Gly Ala Val Ala Leu His Val Tyr Gln Ala
                  885                    890                    895
Tyr Trp Lys Ala Val Gly Gln Gly Leu Ala Leu Ala Ile Leu Phe Ser
             900                    905                    910
Leu Leu Leu Met Gln Ala Thr Arg Asn Ala Ala Asp Trp Trp Leu Ser
             915                    920                    925
His Trp Ile Ser Gln Leu Lys Ala Glu Asn Ser Ser Gln Glu Ala Gln
         930                    935                    940
Pro Ser Thr Ser Pro Ala Ser Met Gly Leu Phe Ser Pro Gln Leu Leu
945                    950                    955                    960
Leu Phe Ser Pro Gly Asn Leu Tyr Ile Pro Val Phe Pro Leu Pro Lys
                  965                    970                    975
Ala Ala Pro Asn Gly Ser Ser Asp Ile Arg Phe Tyr Leu Thr Val Tyr
             980                    985                    990
Ala Thr Ile Ala Gly Val Asn Ser Leu Cys Thr Leu Leu Arg Ala Val
             995                   1000                   1005
Leu Phe Ala Ala Gly Thr Leu Gln Ala Ala Ala Thr Leu His Arg Arg
         1010                   1015                   1020
Leu Leu His Arg Val Leu Met Ala Pro Val Thr Phe Phe Asn Ala Thr
1025                   1030                   1035                   1040
Pro Thr Gly Arg Ile Leu Asn Arg Phe Ser Asp Val Ala Cys Ala
                  1045                   1050                   1055
Asp Asp Ser Leu Pro Phe Ile Leu Asn Ile Leu Leu Ala Asn Ala Ala
             1060                   1065                   1070
Gly Leu Leu Gly Leu Leu Ala Val Leu Gly Ser Gly Leu Pro Trp Leu
         1075                   1080                   1085
Leu Leu Leu Leu Pro Pro Leu Ser Ile Met Tyr Tyr His Val Gln Arg
         1090                   1095                   1100
His Tyr Arg Ala Ser Ser Arg Glu Leu Arg Arg Leu Gly Ser Leu Thr
1105                   1110                   1115                   1120
Leu Ser Pro Leu Tyr Ser His Leu Ala Asp Thr Leu Ala Gly Leu Ser
                  1125                   1130                   1135
Val Leu Arg Ala Thr Gly Ala Thr Tyr Arg Phe Glu Glu Glu Asn Leu
             1140                   1145                   1150
Arg Leu Leu Glu Leu Asn Gln Arg Cys Gln Phe Ala Thr Ser Ala Thr
         1155                   1160                   1165
Met Gln Trp Leu Asp Ile Arg Leu Gln Leu Met Gly Ala Ala Val Val
         1170                   1175                   1180
Ser Ala Ile Ala Gly Ile Ala Leu Val Gln His Gln Gln Gly Leu Ala
1185                   1190                   1195                   1200
Asn Pro Gly Leu Val Gly Leu Ser Leu Ser Tyr Ala Leu Ser Leu Thr
                  1205                   1210                   1215
Gly Leu Leu Ser Gly Leu Val Ser Ser Phe Thr Gln Thr Glu Ala Met
             1220                   1225                   1230
Leu Val Ser Val Glu Arg Leu Glu Glu Tyr Thr Cys Asp Leu Pro Gln
         1235                   1240                   1245
```

Glu Pro Gln Gly Gln Pro Leu Gln Leu Gly Thr Gly Trp Leu Thr Gln
        1250   1255   1260
Gly Gly Val Glu Phe Gln Asp Val Val Leu Ala Tyr Arg Pro Gly Leu
1265   1270   1275   1280
Pro Asn Ala Leu Asp Gly Val Thr Phe Cys Val Gln Pro Gly Glu Lys
                1285   1290   1295
Leu Gly Ile Val Gly Arg Thr Gly Ser Gly Lys Ser Ser Leu Leu Leu
                1300   1305   1310
Val Leu Phe Arg Leu Leu Glu Pro Ser Ser Gly Arg Val Leu Leu Asp
        1315   1320   1325
Gly Val Asp Thr Ser Gln Leu Glu Leu Ala Gln Leu Arg Ser Gln Leu
        1330   1335   1340
Ala Ile Ile Pro Gln Glu Pro Phe Leu Phe Ser Gly Thr Val Arg Glu
1345   1350   1355   1360
Asn Leu Asp Pro Gln Gly Leu His Lys Asp Arg Ala Leu Trp Gln Ala
                1365   1370   1375
Leu Lys Gln Cys His Leu Ser Glu Val Ile Thr Ser Met Gly Gly Leu
                1380   1385   1390
Asp Gly Glu Leu Gly Glu Gly Gly Arg Ser Leu Ser Leu Gly Gln Arg
        1395   1400   1405
Gln Leu Leu Cys Leu Ala Arg Ala Leu Leu Thr Asp Ala Lys Ile Leu
        1410   1415   1420
Cys Ile Asp Glu Ala Thr Ala Ser Val Asp Gln Lys Thr Asp Gln Leu
1425   1430   1435   1440
Leu Gln Gln Thr Ile Cys Lys Arg Phe Ala Asn Lys Thr Val Leu Thr
                1445   1450   1455
Ile Ala His Arg Leu Asn Thr Ile Leu Asn Ser Asp Arg Val Leu Val
                1460   1465   1470
Leu Gln Ala Gly Arg Val Val Glu Leu Asp Ser Pro Ala Thr Leu Arg
        1475   1480   1485
Asn Gln Pro His Ser Leu Phe Gln Gln Leu Leu Gln Ser Ser Gln Gln
        1490   1495   1500
Gly Val Pro Ala Ser Leu Gly Gly Pro
1505   1510

<210> 18
<211> 282
<212> PRT
<213> Homo sapiens

<400> 18
Met Ala Ala Val Arg Val Leu Val Ala Ser Arg Leu Ala Ala Ala Ser
 1   5   10   15
Ala Phe Thr Ser Leu Ser Pro Gly Gly Arg Thr Pro Ser Gln Arg Ala
            20   25   30
Ala Leu His Leu Ser Val Pro Arg Pro Ala Ala Arg Val Ala Leu Val
        35   40   45
Leu Ser Gly Cys Gly Val Tyr Asp Gly Thr Glu Ile His Glu Ala Ser
    50   55   60
Ala Ile Leu Val His Leu Ser Arg Gly Gly Ala Glu Val Gln Ile Phe
65   70   75   80
Ala Pro Asp Val Pro Gln Met His Val Ile Asp His Thr Lys Gly Gln
            85   90   95
Pro Ser Glu Gly Glu Ser Arg Asn Val Leu Thr Glu Ser Ala Arg Ile
            100   105   110
Ala Arg Gly Lys Ile Thr Asp Leu Ala Asn Leu Ser Ala Ala Asn His
        115   120   125
Asp Ala Ile Phe Pro Gly Gly Phe Gly Ala Ala Lys Asn Leu Ser
    130   135   140
Thr Phe Ala Val Asp Gly Lys Asp Cys Lys Val Asn Lys Glu Val Glu
145   150   155   160
Arg Val Leu Lys Glu Phe His Gln Ala Gly Lys Pro Ile Gly Leu Cys
            165   170   175

```
Cys Ile Ala Pro Val Leu Ala Ala Lys Val Leu Arg Gly Val Glu Val
            180                 185                 190
Thr Val Gly His Glu Gln Glu Glu Gly Gly Lys Trp Pro Tyr Ala Gly
            195                 200                 205
Thr Ala Glu Ala Ile Lys Ala Leu Gly Ala Lys His Cys Val Lys Glu
            210                 215                 220
Val Ser Leu Arg Ser Val Leu Gly Gly Phe Phe Arg Asn Ser Ala His
225                 230                 235                 240
Glu Ala His Val Asp Gln Lys Asn Lys Val Val Thr Thr Pro Ala Phe
            245                 250                 255
Met Cys Glu Thr Ala Leu His Tyr Ile His Asp Gly Ile Gly Ala Met
            260                 265                 270
Val Arg Lys Val Leu Glu Leu Thr Gly Lys
            275                 280
```

<210> 19
<211> 297
<212> PRT
<213> Homo sapiens

<400> 19
```
Met Ala Glu Leu Thr Ala Leu Glu Ser Leu Ile Glu Met Gly Phe Pro
  1               5                  10                  15
Arg Gly Arg Ala Glu Lys Ala Leu Ala Leu Thr Gly Asn Gln Gly Ile
            20                  25                  30
Glu Ala Ala Met Asp Trp Leu Met Glu His Glu Asp Asp Pro Asp Val
            35                  40                  45
Asp Glu Pro Leu Glu Thr Pro Leu Gly His Ile Leu Gly Arg Glu Pro
  50                  55                  60
Thr Ser Ser Glu Gln Gly Gly Leu Glu Gly Ser Gly Ser Ala Ala Gly
65                  70                  75                  80
Glu Gly Lys Pro Ala Leu Ser Glu Glu Glu Arg Gln Glu Gln Thr Lys
            85                  90                  95
Arg Met Leu Glu Leu Val Ala Gln Lys Gln Arg Glu Arg Glu Glu Arg
            100                 105                 110
Glu Glu Arg Glu Ala Leu Glu Arg Glu Arg Gln Arg Arg Gln Gly
            115                 120                 125
Gln Glu Leu Ser Ala Ala Arg Gln Arg Leu Gln Glu Asp Glu Met Arg
            130                 135                 140
Arg Ala Ala Glu Glu Arg Arg Arg Glu Lys Ala Glu Glu Leu Ala Ala
145                 150                 155                 160
Arg Gln Arg Val Arg Glu Lys Ile Glu Arg Asp Lys Ala Glu Arg Ala
            165                 170                 175
Lys Lys Tyr Gly Gly Ser Val Gly Ser Gln Pro Pro Val Ala Pro
            180                 185                 190
Glu Pro Gly Pro Val Pro Ser Ser Pro Ser Gln Glu Pro Pro Thr Lys
            195                 200                 205
Arg Glu Tyr Asp Gln Cys Arg Ile Gln Val Arg Leu Pro Asp Gly Thr
            210                 215                 220
Ser Leu Thr Gln Thr Phe Arg Ala Arg Glu Gln Leu Ala Ala Val Arg
225                 230                 235                 240
Leu Tyr Val Glu Leu His Arg Gly Glu Glu Leu Gly Gly Gly Gln Asp
            245                 250                 255
Pro Val Gln Leu Leu Ser Gly Phe Pro Arg Arg Ala Phe Ser Glu Ala
            260                 265                 270
Asp Met Glu Arg Pro Leu Gln Glu Leu Gly Leu Val Pro Ser Ala Val
            275                 280                 285
Leu Ile Val Ala Lys Lys Cys Pro Ser
            290                 295
```

<210> 20
<211> 221
<212> PRT

<213> Homo sapiens

<400> 20
```
Gln Val Lys Leu Lys Ile Pro Phe Gly Asn Lys Leu Leu Asp Ala Val
1               5               10              15
Cys Leu Val Pro Asn Lys Ser Leu Thr Tyr Gly Ile Ile Leu Thr His
            20              25              30
Gly Ala Ser Gly Asp Met Asn Leu Pro His Leu Met Ser Leu Ala Ser
        35              40              45
His Leu Ala Ser His Gly Phe Phe Cys Leu Arg Phe Thr Cys Lys Gly
    50              55              60
Leu Asn Ile Val His Arg Ile Lys Ala Tyr Lys Ser Val Leu Asn Tyr
65              70              75              80
Leu Lys Thr Ser Gly Glu Tyr Lys Leu Ala Gly Val Phe Leu Gly Gly
            85              90              95
Arg Ser Met Gly Ser Arg Ala Ala Ala Ser Val Met Cys His Ile Glu
            100             105             110
Pro Asp Asp Gly Asp Asp Phe Val Arg Gly Leu Ile Cys Ile Ser Tyr
            115             120             125
Pro Leu His His Pro Lys Gln Gln His Lys Leu Arg Asp Glu Asp Leu
            130             135             140
Phe Arg Leu Lys Glu Pro Val Leu Phe Val Ser Gly Ser Ala Asp Glu
145             150             155             160
Met Cys Glu Lys Asn Leu Leu Glu Lys Val Ala Gln Lys Met Gln Ala
            165             170             175
Pro His Lys Ile His Trp Ile Glu Lys Ala Asn His Ser Met Ala Val
            180             185             190
Lys Gly Arg Ser Thr Asn Asp Val Phe Lys Glu Ile Asn Thr Gln Ile
            195             200             205
Leu Phe Trp Ile Gln Glu Ile Thr Glu Met Asp Lys Lys
            210             215             220
```

<210> 21
<211> 305
<212> PRT
<213> Homo sapiens

<400> 21
```
Met Asn Gly Leu Ser Leu Ser Glu Leu Cys Cys Leu Phe Cys Cys Pro
1               5               10              15
Pro Cys Pro Gly Arg Ile Ala Ala Lys Leu Ala Phe Leu Pro Pro Glu
            20              25              30
Ala Thr Tyr Ser Leu Val Thr Glu Pro Glu Pro Gly Pro Gly Gly Ala
        35              40              45
Gly Ala Ala Pro Leu Gly Thr Leu Arg Ala Ser Ser Gly Ala Pro Gly
    50              55              60
Arg Trp Lys Leu His Leu Thr Glu Arg Ala Asp Phe Gln Tyr Ser Gln
65              70              75              80
Arg Glu Leu Asp Thr Ile Glu Val Phe Pro Thr Lys Ser Ala Arg Arg
            85              90              95
Asn Arg Val Ser Cys Met Tyr Val Arg Cys Val Thr Gly Ala Arg Tyr
            100             105             110
Thr Val Leu Phe Ser His Ser Asn Ala Val Asp Leu Gly Gln Met Ser
            115             120             125
Ser Phe Tyr Ile Gly Leu Gly Ser Arg Leu His Cys Asn Ile Phe Ser
        130             135             140
Tyr Asp Tyr Ser Gly Tyr Gly Ala Ser Ser Gly Arg Pro Ser Glu Arg
145             150             155             160
Asn Leu Tyr Ala Asp Ile Asp Ala Ala Trp Gln Ala Leu Arg Thr Arg
            165             170             175
Tyr Gly Ile Ser Pro Asp Ser Ile Ile Leu Tyr Gly Gln Ser Ile Gly
            180             185             190
Thr Val Pro Thr Val Asp Leu Ala Ser Arg Tyr Glu Cys Ala Ala Val
```
Page 20

```
              195                    200                    205
Val Leu His Ser Pro Leu Thr Ser Gly Met Arg Val Ala Phe Pro Asp
    210                    215                    220
Thr Lys Lys Thr Tyr Cys Phe Asp Ala Phe Pro Asn Ile Glu Lys Val
225                    230                    235                    240
Ser Lys Ile Thr Ser Pro Val Leu Ile Ile His Gly Thr Glu Asp Glu
                   245                    250                    255
Val Ile Asp Phe Ser His Gly Leu Ala Leu Tyr Glu Arg Cys Pro Lys
                   260                    265                    270
Ala Val Glu Pro Leu Trp Val Glu Gly Thr Arg His Asn Asp Ile Glu
                   275                    280                    285
Leu Tyr Ser Gln Tyr Leu Glu Gly Leu Arg Arg Phe Ile Ser Gln Glu
                   290                    295                    300
Leu
305
```

<210> 22
<211> 243
<212> PRT
<213> Homo sapiens

<400> 22
```
Ala Gln Gly Lys Asp Gln Met Trp Tyr Glu Asp Ala Leu Ala Ser Ser
1               5                   10                  15
His Pro Ile Ile Leu Tyr Leu His Gly Asn Ala Gly Thr Arg Cys Leu
               20                  25                  30
Phe Phe Thr Leu Gln Val Leu Ser Ser Leu Gly Tyr His Val Val Thr
           35                  40  .               45
Phe Asp Tyr Arg Gly Trp Gly Asp Ser Val Gly Thr Pro Ser Glu Arg
       50                  55                  60
Gly Met Thr Tyr Asp Ala Leu His Val Phe Asp Trp Ile Lys Ala Arg
65                  70                  75                  80
Ser Gly Asp Asn Pro Val Tyr Ile Trp Gly His Ser Leu Gly Thr Gly
               85                  90                  95
Val Ala Thr Asn Leu Val Arg Arg Leu Cys Glu Arg Glu Thr Pro Pro
               100                 105                 110
Asp Ala Leu Ile Leu Glu Ser Pro Phe Thr Asn Ile Arg Glu Glu Ala
           115                 120                 125
Lys Ser His Pro Phe Ser Ile Tyr Arg Tyr Phe Pro Gly Phe Asp Trp
   130                 135                 140
Phe Phe Leu Asp Pro Ile Thr Ser Ser Gly Ile Lys Phe Ala Asn Asp
145                 150                 155                 160
Glu Asn Val Lys His Ile Ser Cys Pro Leu Leu Ile Leu His Ala Glu
               165                 170                 175
Asp Asp Pro Val Val Pro Phe Gln Leu Gly Arg Lys Leu Tyr Ser Ile      .
               180                 185                 190
Ala Ala Pro Ala Arg Ser Phe Arg Asp Phe Lys Val Gln Phe Val Pro
   195                 200                 205
Phe His Ser Asp Leu Gly Tyr Arg His Lys Tyr Ile Tyr Lys Ser Pro
   210                 215                 220
Glu Leu Pro Arg Ile Leu Arg Glu Phe Leu Gly Lys Ser Glu Pro Glu
225                 230                 235                 240
His Gln His
```

<210> 23
<211>. 233
<212> PRT
<213> Homo sapiens

<400> 23
```
Met Asp Ala Ser Ile Met Asp Gly Lys Asp Leu Ser Ala Gly Ala Val
1               5                   10                  15
```

```
Ser Ala Val Gln Cys Ile Ala Asn Pro Ile Lys Leu Ala Arg Leu Val
            20                  25              30
Met Glu Lys Thr Pro His Cys Phe Leu Thr Asp Gln Gly Ala Ala Gln
        35                  40              45
Phe Ala Ala Ala Met Gly Val Pro Glu Ile Pro Gly Glu Lys Leu Val
    50                  55              60
Thr Glu Arg Asn Lys Lys Arg Leu Glu Lys Glu Lys His Glu Lys Gly
65                  70              75                  80
Ala Gln Lys Thr Asp Cys Gln Lys Asn Leu Gly Thr Val Gly Ala Val
            85                  90              95
Ala Leu Asp Cys Lys Gly Asn Val Ala Tyr Ala Thr Ser Thr Gly Gly
            100                 105             110
Ile Val Asn Lys Met Val Gly Arg Val Gly Asp Ser Pro Cys Leu Ala
            115                 120             125
Gly Ala Gly Gly Tyr Ala Asp Asn Asp Ile Gly Ala Val Ser Thr Thr
    130                 135             140
Gly His Gly Glu Ser Ile Leu Lys Val Asn Leu Ala Arg Leu Thr Leu
145             150             155                 160
Phe His Ile Glu Gln Gly Lys Thr Val Glu Glu Ala Ala Asp Leu Ser
            165             170             175
Leu Gly Tyr Met Lys Ser Arg Val Lys Gly Leu Gly Gly Leu Ile Val
            180             185             190
Val Ser Lys Thr Gly Asp Trp Val Ala Lys Trp Thr Ser Thr Ser Met
        195             200             205
Pro Trp Ala Ala Ala Lys Asp Gly Lys Leu His Phe Gly Ile Asp Pro
    210             215             220
Asp Asp Thr Thr Ile Thr Asp Leu Pro
225             230
```

```
<210> 24
<211> 166
<212> PRT
<213> Homo sapiens
```

```
<400> 24
Met Leu Arg Gly Val Leu Gly Lys Thr Phe Arg Leu Val Gly Tyr Thr
 1               5               10              15
Ile Gln Tyr Gly Cys Ile Ala His Cys Ala Phe Glu Tyr Val Gly Gly
            20                  25              30
Val Val Met Cys Ser Gly Pro Ser Met Glu Pro Thr Ile Gln Asn Ser
        35                  40              45
Asp Ile Val Phe Ala Glu Asn Leu Ser Arg His Phe Tyr Gly Ile Gln
    50                  55              60
Arg Gly Asp Ile Val Ile Ala Lys Ser Pro Ser Asp Pro Lys Ser Asn
65                  70              75                  80
Ile Cys Lys Arg Val Ile Gly Leu Glu Gly Asp Lys Ile Leu Thr Thr
            85                  90              95
Ser Pro Ser Asp Phe Phe Lys Ser His Ser Tyr Val Pro Met Gly His
            100             105             110
Val Trp Leu Glu Gly Asp Asn Leu Gln Asn Ser Thr Asp Ser Arg Cys
        115             120             125
Tyr Gly Pro Ile Pro Tyr Gly Leu Ile Arg Gly Arg Ile Phe Phe Lys
    130             135             140
Ile Trp Pro Leu Ser Asp Phe Gly Phe Leu Arg Ala Ser Pro Asn Gly
145             150             155             160
His Arg Phe Ser Asp Asp
            165
```

```
<210> 25
<211> 1091
<212> PRT
<213> Homo sapiens
```

<400> 25

```
Met Met Asp Ser Pro Lys Ile Gly Asn Gly Leu Pro Val Ile Gly Pro
1               5               10              15
Gly Thr Asp Ile Gly Ile Ser Ser Leu His Met Val Gly Tyr Leu Gly
                20              25              30
Lys Asn Phe Asp Ser Ala Lys Val Pro Ser Asp Glu Tyr Cys Pro Ala
            35              40              45
Cys Arg Glu Lys Gly Lys Leu Lys Ala Leu Lys Thr Tyr Arg Ile Ser
        50              55              60
Phe Gln Glu Ser Ile Phe Leu Cys Glu Asp Leu Gln Cys Ile Tyr Pro
65              70              75              80
Leu Gly Ser Lys Ser Leu Asn Asn Leu Ile Ser Pro Asp Leu Glu Glu
                85              90              95
Cys His Thr Pro His Lys Pro Gln Lys Arg Lys Ser Leu Glu Ser Ser
            100             105             110
Tyr Lys Asp Ser Leu Leu Leu Ala Asn Ser Lys Lys Thr Arg Asn Tyr
        115             120             125
Ile Ala Ile Asp Gly Gly Lys Val Leu Asn Ser Lys His Asn Gly Glu
    130             135             140
Val Tyr Asp Glu Thr Ser Ser Asn Leu Pro Asp Ser Ser Gly Gln Gln
145             150             155             160
Asn Pro Ile Arg Thr Ala Asp Ser Leu Glu Arg Asn Glu Ile Leu Glu
                165             170             175
Ala Asp Thr Val Asp Met Ala Thr Thr Lys Asp Pro Ala Thr Val Asp
            180             185             190
Val Ser Gly Thr Gly Arg Pro Ser Pro Gln Asn Glu Gly Cys Thr Ser
        195             200             205
Lys Leu Glu Met Pro Leu Glu Ser Lys Cys Thr Ser Phe Pro Gln Ala
    210             215             220
Leu Cys Val Gln Trp Lys Asn Ala Tyr Ala Leu Cys Trp Leu Asp Cys
225             230             235             240
Ile Leu Ser Ala Leu Val His Ser Glu Glu Leu Lys Asn Thr Val Thr
            245             250             255
Gly Leu Cys Ser Lys Glu Glu Ser Ile Phe Trp Arg Leu Leu Thr Lys
        260             265             270
Tyr Asn Gln Ala Asn Thr Leu Leu Tyr Thr Ser Gln Leu Ser Gly Val
    275             280             285
Lys Asp Gly Asp Cys Lys Lys Leu Thr Ser Glu Ile Phe Ala Glu Ile
    290             295             300
Glu Thr Cys Leu Asn Glu Val Arg Asp Glu Ile Phe Ile Ser Leu Gln
305             310             315             320
Pro Gln Leu Arg Cys Thr Leu Gly Asp Met Glu Ser Pro Val Phe Ala
            325             330             335
Phe Pro Leu Leu Leu Lys Leu Glu Thr His Ile Glu Lys Leu Phe Leu
            340             345             350
Tyr Ser Phe Ser Trp Asp Phe Glu Cys Ser Gln Cys Gly His Gln Tyr
        355             360             365
Gln Asn Arg His Met Lys Ser Leu Val Thr Phe Thr Asn Val Ile Pro
    370             375             380
Glu Trp His Pro Leu Asn Ala Ala His Phe Gly Pro Cys Asn Asn Cys
385             390             395             400
Asn Ser Lys Ser Gln Ile Arg Lys Met Val Leu Glu Lys Val Ser Pro
            405             410             415
Ile Phe Met Leu His Phe Val Glu Gly Leu Pro Gln Asn Asp Leu Gln
            420             425             430
His Tyr Ala Phe His Phe Glu Gly Cys Leu Tyr Gln Ile Thr Ser Val
    435             440             445
Ile Gln Tyr Arg Ala Asn Asn His Phe Ile Thr Trp Ile Leu Asp Ala
    450             455             460
Asp Gly Asn Trp Leu Glu Cys Asp Asp Leu Lys Gly Pro Cys Ser Glu
465             470             475             480
Arg His Lys Lys Phe Glu Val Pro Ala Ser Glu Ile His Ile Val Ile
            485             490             495
```

Trp Glu Arg Lys Ile Ser Gln Val Thr Asp Lys Glu Ala Ala Cys Leu
            500   505   510
Pro Leu Lys Lys Thr Asn Asp Gln His Ala Leu Ser Asn Glu Lys Pro
            515   520   525
Val Ser Leu Thr Ser Cys Ser Val Gly Asp Ala Ala Ser Ala Glu Thr
            530   535   540
Ala Ser Val Thr His Pro Lys Asp Ile Ser Val Ala Pro Arg Thr Leu
545   550   555   560
Ser Gln Asp Thr Ala Val Thr His Gly Asp His Leu Leu Ser Gly Pro
                565   570   575
Lys Gly Leu Val Asp Asn Ile Leu Pro Leu Thr Leu Glu Glu Thr Ile
            580   585   590
Gln Lys Thr Ala Ser Val Ser Gln Leu Asn Ser Glu Ala Phe Leu Leu
            595   600   605
Glu Asn Lys Pro Val Ala Glu Asn Thr Gly Ile Leu Lys Thr Asn Thr
            610   615   620
Leu Leu Ser Gln Glu Ser Leu Met Ala Ser Ser Val Ser Ala Pro Cys
625   630   635   640
Asn Glu Lys Leu Ile Gln Asp Gln Phe Val Asp Ile Ser Phe Pro Ser
                645   650   655
Gln Val Val Asn Thr Asn Met Gln Ser Val Gln Leu Asn Thr Glu Asp
            660   665   670
Thr Val Asn Thr Lys Ser Val Asn Asn Thr Asp Ala Thr Gly Leu Ile
            675   680   685
Gln Gly Val Lys Ser Val Glu Ile Glu Lys Asp Ala Gln Leu Lys Gln
            690   695   700
Phe Leu Thr Pro Lys Thr Glu Gln Leu Lys Pro Glu Arg Val Thr Ser
705   710   715   720
Gln Val Ser Asn Leu Lys Lys Lys Glu Thr Thr Ala Asp Ser Gln Thr
                725   730   735
Thr Thr Ser Lys Ser Leu Gln Asn Gln Ser Leu Lys Glu Asn Gln Lys
            740   745   750
Lys Pro Phe Val Gly Ser Trp Val Lys Gly Leu Ile Ser Arg Gly Ala
            755   760   765
Ser Phe Met Pro Leu Cys Val Ser Ala His Asn Arg Asn Thr Ile Thr
            770   775   780
Asp Leu Gln Pro Ser Val Lys Gly Val Asn Asn Phe Gly Gly Phe Lys
785   790   795   800
Thr Lys Gly Ile Asn Gln Lys Ala Ser His Val Ser Lys Lys Ala Arg
                805   810   815
Lys Ser Ala Ser Lys Pro Pro Pro Ile Ser Lys Pro Pro Ala Gly Pro
            820   825   830
Pro Ser Ser Asn Gly Thr Ala Ala His Pro His Ala His Ala Ala Ser
            835   840   845
Glu Val Leu Glu Lys Ser Gly Ser Thr Ser Cys Gly Ala Gln Leu Asn
            850   855   860
His Ser Ser Tyr Gly Asn Gly Ile Ser Ser Ala Asn His Glu Asp Leu
865   870   875   880
Val Glu Gly Gln Ile His Lys Leu Arg Leu Lys Leu Arg Lys Lys Leu
                885   890   895
Lys Ala Glu Lys Lys Lys Leu Ala Ala Leu Met Ser Ser Pro Gln Ser
            900   905   910
Arg Thr Val Arg Ser Glu Asn Leu Glu Gln Val Pro Gln Asp Gly Ser
            915   920   925
Pro Asn Asp Cys Glu Ser Ile Glu Asp Leu Asn Glu Leu Pro Tyr Pro
            930   935   940
Ile Asp Ile Ala Ser Glu Ser Ala Cys Thr Thr Val Pro Gly Val Ser
945   950   955   960
Leu Tyr Ser Ser Gln Thr His Glu Glu Ile Leu Ala Glu Leu Leu Ser
                965   970   975
Pro Thr Pro Val Ser Thr Glu Leu Ser Glu Asn Gly Glu Gly Asp Phe
            980   985   990
Arg Tyr Leu Gly Met Gly Asp Ser His Ile Pro Pro Val Pro Ser
                            Page 24

```
                995                    1000                   1005
Glu Phe Asn Asp Val Ser Gln Asn Thr His Leu Arg Gln Asp His Asn
        1010                   1015                   1020
Tyr Cys Ser Pro Thr Lys Lys Asn Pro Cys Glu Val Gln Pro Asp Ser
1025                   1030                   1035                   1040
Leu Thr Asn Asn Ala Cys Val Arg Thr Leu Asn Leu Glu Ser Pro Met
                1045                   1050                   1055
Lys Thr Asp Ile Phe Asp Glu Phe Phe Ser Ser Ser Ala Leu Asn Ala
        1060                   1065                   1070
Leu Ala Asn Asp Thr Leu Asp Leu Pro His Phe Asp Glu Tyr Leu Phe
        1075                   1080                   1085
Glu Asn Tyr
    1090


<210> 26
<211> 439
<212> PRT
<213> Homo sapiens

<400> 26
Met Leu Thr Gly Val Thr Asp Gly Ile Phe Cys Cys Leu Leu Gly Thr
 1               5                  10                  15
Pro Pro Asn Ala Val Gly Pro Leu Glu Ser Val Glu Ser Ser Asp Gly
            20                  25                  30
Tyr Thr Phe Val Glu Val Lys Pro Gly Arg Val Leu Arg Val Lys His
        35                  40                  45
Ala Gly Pro Ala Pro Ala Ala Ala Pro Pro Pro Ser Ser Ala Ser
    50                  55                  60
Ser Asp Ala Ala Gln Gly Asp Leu Ser Gly Leu Val Arg Cys Gln Arg
65                  70                  75                  80
Arg Ile Thr Val Tyr Arg Asn Gly Arg Leu Leu Val Glu Asn Leu Gly
                85                  90                  95
Arg Ala Pro Arg Ala Asp Leu Leu His Gly Gln Asn Gly Ser Gly Glu
            100                 105                 110
Pro Pro Ala Ala Leu Glu Val Glu Leu Ala Asp Pro Ala Gly Ser Asp
        115                 120                 125
Gly Arg Leu Ala Pro Gly Ser Ala Gly Ser Gly Ser Gly Ser Gly Ser
    130                 135                 140
Gly Gly Arg Arg Arg Arg Ala Arg Arg Pro Lys Arg Thr Ile His Ile
145                 150                 155                 160
Asp Cys Glu Lys Arg Ile Thr Ser Cys Lys Gly Ala Gln Ala Asp Val
            165                 170                 175
Val Leu Phe Phe Ile His Gly Val Gly Gly Ser Leu Ala Ile Trp Lys
            180                 185                 190
Glu Gln Leu Asp Phe Phe Val Arg Leu Gly Tyr Glu Val Val Ala Pro
        195                 200                 205
Asp Leu Ala Gly His Gly Ala Ser Ser Ala Pro Gln Val Ala Ala Ala
    210                 215                 220
Tyr Thr Phe Tyr Ala Leu Ala Glu Asp Met Arg Ala Ile Phe Lys Arg
225                 230                 235                 240
Tyr Ala Lys Lys Arg Asn Val Leu Ile Gly His Ser Tyr Gly Val Ser
            245                 250                 255
Phe Cys Thr Phe Leu Ala His Glu Tyr Pro Asp Leu Val His Lys Val
            260                 265                 270
Ile Met Ile Asn Gly Gly Gly Pro Thr Ala Leu Glu Pro Ser Phe Cys
        275                 280                 285
Ser Ile Phe Asn Met Pro Thr Cys Val Leu His Cys Leu Ser Pro Cys
        290                 295                 300
Leu Ala Trp Ser Phe Leu Lys Ala Gly Phe Ala Arg Gln Gly Ala Lys
305                 310                 315                 320
Glu Lys Gln Leu Leu Lys Glu Gly Asn Ala Phe Asn Val Ser Ser Phe
            325                 330                 335
Val Leu Arg Ala Met Met Ser Gly Gln Tyr Trp Pro Glu Gly Asp Glu
```

```
                340                      345                      350
Val Tyr His Ala Glu Leu Thr Val Pro Val Leu Leu Val His Gly Met
         355                      360                  365
His Asp Lys Phe Val Pro Val Glu Glu Asp Gln Arg Met Ala Glu Ile
    370                      375                  380
Leu Leu Leu Ala Phe Leu Lys Leu Ile Asp Glu Gly Ser His Met Val
385                      390                      395                  400
Met Leu Glu Cys Pro Glu Thr Val Asn Thr Leu Leu His Glu Phe Leu
             405                      410                  415
Leu Trp Glu Pro Glu Pro Ser Pro Lys Ala Leu Pro Glu Pro Leu Pro
         420                      425                  430
Ala Pro Pro Glu Asp Lys Lys
         435


<210> 27
<211> 514
<212> PRT
<213> Homo sapiens


<400> 27
Met Arg Arg Gln Trp Gly Ser Ala Met Arg Ala Ala Glu Gln Ala Gly
 1               5               10                  15
Cys Met Val Ser Ala Ser Arg Ala Gly Gln Pro Glu Ala Gly Pro Trp
             20                  25                  30
Ser Cys Ser Gly Val Ile Leu Ser Arg Ser Pro Gly Leu Val Leu Cys
             35                  40                  45
His Gly Gly Ile Phe Val Pro Phe Leu Arg Ala Gly Ser Glu Val Leu
    50                  55                  60
Thr Ala Gly Ala Val Phe Leu Pro Gly Asp Ser Cys Arg Asp Asp Leu
65                  70                  75                  80
Arg Leu His Val Gln Trp Ala Pro Thr Gly Ala Pro Arg Gly Gln Ala
             85                  90                  95
Arg Thr Gly Pro Pro Arg Leu Ala Arg Pro Met Arg Asp Leu Ser Pro
             100                  105                  110
Pro Pro Pro Ser Gln Ala Ser Leu Ser Gln Ser Cys Asp Trp Arg Ile
             115                  120                  125
Thr Glu Thr Leu Gly Trp Phe Ala Leu Leu Gly Val Arg Leu Gly Gln
    130                  135                  140
Glu Glu Trp Arg Arg Arg Gly Pro Met Ala Val Ser Pro Leu Gly Ala
145                  150                  155                  160
Val Pro Lys Gly Ala Pro Leu Leu Val Cys Gly Ser Pro Phe Gly Ala
             165                  170                  175
Phe Cys Pro Asp Ile Phe Leu Asn Thr Leu Ser Cys Gly Val Leu Ser
             180                  185                  190
Asn Val Ala Gly Pro Leu Leu Leu Thr Asp Ala Arg Cys Leu Pro Gly
             195                  200                  205
Thr Glu Gly Gly Gly Val Phe Thr Ala Arg Pro Ala Gly Ala Leu Val
    210                  215                  220
Ala Leu Val Val Ala Pro Leu Cys Trp Lys Ala Gly Glu Trp Val Gly
225                  230                  235                  240
Phe Thr Leu Leu Cys Ala Ala Ala Pro Leu Phe Arg Ala Ala Arg Asp
             245                  250                  255
Ala Leu His Arg Leu Pro His Ser Thr Ala Ala Leu Ala Ala Leu Leu
             260                  265                  270
Pro Pro Glu Val Gly Val Pro Trp Gly Leu Pro Leu Arg Asp Ser Gly
    275                  280                  285
Pro Leu Trp Ala Ala Ala Ala Val Leu Val Glu Cys Gly Thr Val Trp
    290                  295                  300
Gly Ser Gly Val Ala Val Ala Pro Arg Leu Val Val Thr Cys Arg His
305                  310                  315                  320
Val Ser Pro Arg Glu Ala Ala Arg Val Leu Val Arg Ser Thr Thr Pro
             325                  330                  335
Lys Ser Val Ala Ile Trp Gly Arg Val Val Phe Ala Thr Gln Glu Thr
```

```
                   340                     345                     350
Cys Pro Tyr Asp Ile Ala Val Val Ser Leu Glu Glu Asp Leu Asp Asp
        355                     360                 365
Val Pro Ile Pro Val Pro Ala Glu His Phe His Glu Gly Glu Ala Val
    370                     375                 380
Ser Val Val Gly Phe Gly Val Phe Gly Gln Ser Cys Gly Pro Ser Val
385                     390                     395                 400
Thr Ser Gly Ile Leu Ser Ala Val Val Gln Val Asn Gly Thr Pro Val
                405                     410                     415
Met Leu Gln Thr Thr Cys Ala Val His Ser Gly Ser Ser Gly Gly Pro
            420                     425                 430
Leu Phe Ser Asn His Ser Gly Asn Leu Leu Gly Ile Ile Thr Ser Asn
        435                     440                 445
Thr Arg Asp Asn Asn Thr Gly Ala Thr Tyr Pro His Leu Asn Phe Ser
    450                     455                 460
Ile Pro Ile Thr Val Leu Gln Pro Ala Leu Gln Gln Tyr Ser Gln Thr
465                     470                     475                 480
Gln Asp Leu Gly Gly Leu Arg Glu Leu Asp Arg Ala Ala Glu Pro Val
                485                     490                     495
Arg Val Val Trp Arg Leu Gln Arg Pro Leu Ala Glu Ala Pro Arg Ser
            500                     505                 510
Lys Leu
```

<210> 28
<211> 305
<212> PRT
<213> Homo sapiens

<400> 28
```
Met Ala Val Ala Arg Leu Ala Ala Val Ala Ala Trp Val Pro Cys Arg
 1               5                   10                  15
Ser Trp Gly Trp Ala Ala Val Pro Phe Gly Pro His Arg Gly Leu Ser
                20                  25                  30
Val Leu Leu Ala Arg Ile Pro Gln Arg Ala Pro Arg Trp Leu Pro Ala
        35                  40                  45
Cys Arg Gln Lys Thr Ser Leu Ser Phe Leu Asn Arg Pro Asp Leu Pro
    50                  55                  60
Asn Leu Ala Tyr Lys Lys Leu Lys Gly Lys Ser Pro Gly Ile Ile Phe
65                  70                  75                  80
Ile Pro Gly Tyr Leu Ser Tyr Met Asn Gly Thr Lys Ala Leu Ala Ile
                85                  90                  95
Glu Glu Phe Cys Lys Ser Leu Gly His Ala Cys Ile Arg Phe Asp Tyr
                100                 105                 110
Ser Gly Val Gly Ser Ser Asp Gly Asn Ser Glu Glu Ser Thr Leu Gly
        115                 120                 125
Lys Trp Arg Lys Asp Val Leu Ser Ile Ile Asp Asp Leu Ala Asp Gly
    130                 135                 140
Pro Gln Ile Leu Val Gly Ser Ser Leu Gly Gly Trp Leu Met Leu His
145                 150                 155                 160
Ala Ala Ile Ala Arg Pro Glu Lys Val Val Ala Leu Ile Gly Val Ala
                165                 170                 175
Thr Ala Asp Thr Leu Val Thr Lys Phe Asn Gln Leu Pro Val Glu Leu
                180                 185                 190
Lys Lys Glu Val Glu Met Lys Gly Val Trp Ser Met Pro Ser Lys Tyr
        195                 200                 205
Ser Glu Glu Gly Val Tyr Asn Val Gln Tyr Ser Phe Ile Lys Glu Ala
    210                 215                 220
Glu His His Cys Leu Leu His Ser Pro Ile Pro Val Asn Cys Pro Ile
225                 230                 235                 240
Arg Leu Leu His Gly Met Lys Asp Asp Ile Val Pro Trp His Thr Ser
                245                 250                 255
Met Gln Val Ala Asp Arg Val Leu Ser Thr Asp Val Asp Val Ile Leu
```

```
                  260                         265                    270
Arg Lys His Ser Asp His Arg Met Arg Glu Lys Ala Asp Ile Gln Leu
        275                     280                   285
Leu Val Tyr Thr Ile Asp Asp Leu Ile Asp Lys Leu Ser Thr Ile Val
        290                     295                   300
Asn
305


<210> 29
<211> 728
<212> PRT
<213> Homo sapiens

<400> 29
Gln Gln Gly Ser Ile Thr Leu Ser Leu Trp Thr Leu Pro Asp Val Leu
 1               5                  10                  15
Ile Ile His Leu Lys Arg Phe Arg Gln Glu Gly Asp Arg Arg Met Lys
            20                  25                  30
Leu Gln Asn Met Val Lys Phe Pro Leu Thr Gly Leu Asp Met Thr Pro
        35                  40                  45
His Val Val Lys Arg Ser Gln Ser Ser Trp Ser Leu Pro Ser His Trp
    50                  55                  60
Ser Pro Trp Arg Arg Pro Tyr Gly Leu Gly Arg Asp Pro Glu Asp Tyr
65                  70                  75                  80
Ile Tyr Asp Leu Tyr Ala Val Cys Asn His His Gly Thr Met Gln Gly
                85                  90                  95
Gly His Tyr Thr Ala Tyr Cys Lys Asn Ser Val Asp Gly Leu Trp Tyr
            100                 105                 110
Cys Phe Asp Asp Ser Asp Val Gln Gln Leu Ser Glu Asp Glu Val Cys
        115                 120                 125
Thr Gln Thr Ala Tyr Ile Leu Phe Tyr Gln Arg Arg Thr Ala Ile Pro
        130                 135                 140
Ser Trp Ser Ala Asn Ser Ser Val Ala Gly Ser Thr Ser Ser Ser Leu
145                 150                 155                 160
Cys Glu His Trp Val Ser Arg Leu Pro Gly Ser Lys Pro Ala Ser Val
                165                 170                 175
Thr Ser Ala Ala Ser Ser Arg Arg Thr Ser Leu Ala Ser Leu Ser Glu
            180                 185                 190
Ser Val Glu Met Thr Gly Glu Arg Ser Glu Asp Asp Gly Gly Cys Phe
        195                 200                 205
Ser Thr Arg Pro Phe Val Arg Ser Val Gln Arg Gln Ser Leu Ser Ser
        210                 215                 220
Arg Ser Ser Val Thr Ser Pro Leu Ala Val Asn Glu Asn Cys Met Arg
225                 230                 235                 240
Pro Ser Trp Ser Leu Ser Ala Lys Leu Gln Met Arg Ser Asn Ser Pro
                245                 250                 255
Ser Arg Phe Ser Gly Asp Ser Pro Ile His Ser Ser Ala Ser Thr Leu
            260                 265                 270
Glu Lys Ile Gly Glu Ala Ala Asp Asp Lys Val Ser Ile Ser Cys Phe
        275                 280                 285
Gly Ser Leu Arg Asn Leu Ser Ser Ser Tyr Gln Glu Pro Ser Asp Ser
        290                 295                 300
His Ser Leu Arg Glu His Lys Ala Val Gly Arg Ala Pro Leu Ala Val
305                 310                 315                 320
Met Glu Gly Val Phe Lys Asp Glu Ser Asp Thr Arg Arg Leu Asn Ser
                325                 330                 335
Ser Val Val Asp Thr Gln Ser Lys His Ser Ala Gln Gly Asp Arg Leu
            340                 345                 350
Pro Pro Leu Ser Gly Pro Phe Asp Asn Asn Asn Gln Ile Ala Tyr Val
        355                 360                 365
Asp Gln Ser Asp Ser Val Asp Ser Ser Pro Val Lys Glu Val Lys Ala
        370                 375                 380
Pro Ser His Pro Gly Ser Leu Ala Lys Lys Pro Glu Ser Thr Thr Lys
```

```
385                390                395                400
Arg Ser Pro Ser Ser Lys Gly Thr Ser Glu Pro Glu Lys Ser Leu Arg
                405                410                415
Lys Gly Arg Pro Ala Leu Ala Ser Gln Glu Ser Ser Leu Ser Ser Thr
                420                425                430
Ser Pro Ser Ser Pro Leu Pro Val Lys Val Ser Leu Lys Pro Ser Arg
                435                440                445
Ser Arg Ser Lys Ala Asp Ser Ser Ser Arg Gly Ser Gly Arg His Ser
    450                455                460
Ser Pro Ala Pro Ala Gln Pro Lys Lys Glu Ser Ser Pro Lys Ser Gln
465                470                475                480
Asp Ser Val Ser Ser Pro Ser Pro Gln Lys Gln Lys Ser Ala Ser Ala
                485                490                495
Leu Thr Tyr Thr Ala Ser Ser Thr Ser Ala Lys Lys Ala Ser Gly Pro
                500                505.               510
Ala Thr Arg Ser Pro Phe Pro Pro Gly Lys Ser Arg Thr Ser Asp His
    515                520                525
Ser Leu Ser Arg Glu Gly Ser Arg Gln Ser Leu Gly Ser Asp Arg Ala
    530                535                540
Ser Ala Thr Ser Thr Ser Lys Pro Asn Ser Pro Arg Val Ser Gln Ala
545                550                555                560
Arg Ala Gly Glu Gly Arg Gly Ala Gly Lys His Val Arg Ser Ser Ser
                565                570                575
Met Ala Ser Leu Arg Ser Pro Ser Thr Ser Ile Lys Ser Gly Leu Lys
                580                585                590
Arg Asp Ser Lys Ser Glu Asp Lys Gly Leu Ser Phe Phe Lys Ser Ala
    595                600                605
Leu Arg Gln Lys Glu Thr Arg Arg Ser Thr Asp Leu Gly Lys Thr Ala
    610                615                620
Leu Leu Ser Lys Lys Ala Gly Gly Ser Ser Val Lys Ser Val Cys Lys
625                630                635                640
Asn Thr Gly Asp Asp Glu Ala Glu Arg Gly His Gln Pro Pro Ala Ser
                645                650                655
Gln Gln Pro Asn Ala Asn Thr Thr Gly Lys Glu Gln Leu Val Thr Lys
                660                665                670
Asp Pro Ala Ser Ala Lys His Ser Leu Leu Ser Ala Arg Lys Ser Lys
    675                680                685
Ser Ser Gln Leu Asp Ser Gly Val Pro Ser Ser Pro Gly Gly Arg Gln
    690                695                700
Ser Ala Glu Lys Ser Ser Lys Lys Leu Ser Ser Ser Met Gln Thr Ser
705                710                715                720
Ala Arg Pro Ser Gln Lys Pro Gln
                725
```

```
<210> 30
<211> 561
<212> PRT
<213> Homo sapiens

<400> 30
Met Cys Gly Ile Trp Ala Leu Phe Gly Ser Asp Asp Cys Leu Ser Val
 1                5                10                15
Gln Cys Leu Ser Ala Met Lys Ile Ala His Arg Gly Pro Asp Ala Phe
                20                25                30
Arg Phe Glu Asn Val Asn Gly Tyr Thr Asn Cys Cys Phe Gly Phe His
    35                40                45
Arg Leu Ala Val Val Asp Pro Leu Phe Gly Met Gln Pro Ile Arg Val
    50                55                60
Lys Lys Tyr Pro Tyr Leu Trp Leu Cys Tyr Asn Gly Glu Ile Tyr Asn
65                70                75                80
His Lys Lys Met Gln Gln His Phe Glu Phe Glu Tyr Gln Thr Lys Val
                85                90                95
Asp Gly Glu Ile Ile Leu His Leu Tyr Asp Lys Gly Gly Ile Glu Gln
```

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```
                 100                    105                    110
Thr Ile Cys Met Leu Asp Gly Val Phe Ala Phe Val Leu Leu Asp Thr
             115                    120                    125
Ala Asn Lys Lys Val Phe Leu Gly Arg Asp Thr Tyr Gly Val Arg Pro
         130                    135                    140
Leu Phe Lys Ala Met Thr Glu Asp Gly Phe Leu Ala Val Cys Ser Glu
145                    150                    155                    160
Ala Lys Gly Leu Val Thr Leu Lys His Ser Ala Thr Pro Phe Leu Lys
                 165                    170                    175
Val Glu Pro Phe Leu Pro Gly His Tyr Glu Val Leu Asp Leu Lys Pro
             180                    185                    190
Asn Gly Lys Val Ala Ser Val Glu Met Val Lys Tyr His His Cys Arg
         195                    200                    205
Asp Val Pro Leu His Ala Leu Tyr Asp Asn Val Glu Lys Leu Phe Pro
210                    215                    220
Gly Phe Glu Ile Glu Thr Val Lys Asn Asn Leu Arg Ile Leu Phe Asn
225                    230                    235                    240
Asn Ala Val Lys Lys Arg Leu Met Thr Asp Arg Arg Ile Gly Cys Leu
             245                    250                    255
Leu Ser Gly Gly Leu Asp Ser Ser Leu Val Ala Ala Thr Leu Leu Lys
             260                    265                    270
Gln Leu Lys Glu Ala Gln Val Gln Tyr Pro Leu Gln Thr Phe Ala Ile
         275                    280                    285
Gly Met Glu Asp Ser Pro Asp Leu Leu Ala Ala Arg Lys Val Ala Asp
         290                    295                    300
His Ile Gly Ser Glu His Tyr Glu Val Leu Phe Asn Ser Glu Glu Gly
305                    310                    315                    320
Ile Gln Ala Leu Asp Glu Val Ile Phe Ser Leu Glu Thr Tyr Asp Ile
             325                    330                    335
Thr Thr Val Arg Ala Ser Val Gly Met Tyr Leu Ile Ser Lys Tyr Ile
             340                    345                    350
Arg Lys Asn Thr Asp Ser Val Val Ile Phe Ser Gly Glu Gly Ser Asp
         355                    360                    365
Glu Leu Thr Gln Gly Tyr Ile Tyr Phe His Lys Ala Pro Ser Pro Glu
         370                    375                    380
Lys Ala Glu Glu Glu Ser Glu Arg Leu Leu Arg Glu Leu Tyr Leu Phe
385                    390                    395                    400
Asp Val Leu Arg Ala Asp Arg Thr Thr Ala Ala His Gly Leu Glu Leu
             405                    410                    415
Arg Val Pro Phe Leu Asp His Arg Phe Ser Ser Tyr Tyr Leu Ser Leu
             420                    425                    430
Pro Pro Glu Met Arg Ile Pro Lys Asn Gly Ile Glu Lys His Leu Leu
         435                    440                    445
Arg Glu Thr Phe Glu Asp Ser Asn Leu Ile Pro Lys Glu Ile Leu Trp
         450                    455                    460
Arg Pro Lys Glu Ala Phe Ser Asp Gly Ile Thr Ser Val Lys Asn Ser
465                    470                    475                    480
Trp Phe Lys Ile Leu Gln Glu Tyr Val Glu His Gln Val Asp Asp Ala
             485                    490                    495
Met Met Ala Asn Ala Ala Gln Lys Phe Pro Phe Asn Thr Pro Lys Thr
         500                    505                    510
Lys Glu Gly Tyr Tyr Tyr Arg Gln Val Phe Glu Arg His Tyr Pro Gly
         515                    520                    525
Arg Ala Asp Trp Leu Ser His Tyr Trp Met Pro Lys Trp Ile Asn Ala
530                    535                    540
Thr Asp Pro Ser Ala Arg Thr Leu Thr His Tyr Lys Ser Ala Val Lys
545                    550                    555                    560
Ala
```

<210> 31
<211> 830
<212> PRT

<213> Homo sapiens

<400> 31

```
Gln Ala Asn Cys Gln Ile Ala Ile Leu Tyr Gln Arg Phe Gln Arg Val
1               5               10              15
Val Phe Gly Ile Ser Gln Leu Leu Cys Phe Ser Ala Leu Ile Ser Glu
            20              25              30
Leu Thr Asn Gln Lys Glu Val Ala Ala Trp Thr Tyr His Tyr Ser Thr
        35              40              45
Lys Ala Tyr Ser Trp Asn Ile Ser Arg Lys Tyr Cys Gln Asn Arg Tyr
50              55              60
Thr Asp Leu Val Ala Ile Gln Asn Lys Asn Glu Ile Asp Tyr Leu Asn
65              70              75              80
Lys Val Leu Pro Tyr Tyr Ser Ser Tyr Tyr Trp Ile Gly Ile Arg Lys
            85              90              95
Asn Asn Lys Thr Trp Thr Trp Val Gly Thr Lys Lys Ala Leu Thr Asn
        100             105             110
Glu Ala Glu Asn Trp Ala Asp Asn Glu Pro Asn Asn Lys Arg Asn Asn
        115             120             125
Glu Asp Cys Val Glu Ile Tyr Ile Lys Ser Pro Ser Ala Pro Gly Lys
130             135             140
Trp Asn Asp Glu His Cys Leu Lys Lys His Ala Leu Cys Tyr Thr
145             150             155             160
Ala Ser Cys Gln Asp Met Ser Cys Ser Lys Gln Gly Glu Cys Leu Glu
            165             170             175
Thr Ile Gly Asn Tyr Thr Cys Ser Cys Tyr Pro Gly Phe Tyr Gly Pro
            180             185             190
Glu Cys Glu Tyr Val Arg Glu Cys Gly Glu Leu Glu Leu Pro Gln His
            195             200             205
Val Leu Met Asn Cys Ser His Pro Leu Gly Asn Phe Ser Phe Asn Ser
    210             215             220
Gln Cys Ser Phe His Cys Thr Asp Gly Tyr Gln Val Asn Gly Pro Ser
225             230             235             240
Lys Leu Glu Cys Leu Ala Ser Gly Ile Trp Thr Asn Lys Pro Pro Gln
            245             250             255
Cys Leu Ala Ala Gln Cys Pro Pro Leu Lys Ile Pro Glu Arg Gly Asn
            260             265             270
Met Thr Cys Leu His Ser Ala Lys Ala Phe Gln His Gln Ser Ser Cys
    275             280             285
Ser Phe Ser Cys Glu Glu Gly Phe Ala Leu Val Gly Pro Glu Val Val
    290             295             300
Gln Cys Thr Ala Ser Gly Val Trp Thr Ala Pro Ala Pro Val Cys Lys
305             310             315             320
Ala Val Gln Cys Gln His Leu Glu Ala Pro Ser Glu Gly Thr Met Asp
            325             330             335
Cys Val His Pro Leu Thr Ala Phe Ala Tyr Gly Ser Ser Cys Lys Phe
            340             345             350
Glu Cys Gln Pro Gly Tyr Arg Val Arg Gly Leu Asp Met Leu Arg Cys
    355             360             365
Ile Asp Ser Gly His Trp Ser Ala Pro Leu Pro Thr Cys Glu Ala Ile
    370             375             380
Ser Cys Glu Pro Leu Glu Ser Pro Val His Gly Ser Met Asp Cys Ser
385             390             395             400
Pro Ser Leu Arg Ala Phe Gln Tyr Asp Thr Asn Cys Ser Phe Arg Cys
            405             410             415
Ala Glu Gly Phe Met Leu Arg Gly Ala Asp Ile Val Arg Cys Asp Asn
            420             425             430
Leu Gly Gln Trp Thr Ala Pro Ala Pro Val Cys Gln Ala Leu Gln Cys
    435             440             445
Gln Asp Leu Pro Val Pro Asn Glu Ala Arg Val Asn Cys Ser His Pro
    450             455             460
Phe Gly Ala Phe Arg Tyr Gln Ser Val Cys Ser Phe Thr Cys Asn Glu
465             470             475             480
```

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Gly Leu Leu Leu Val Gly Ala Ser Val Leu Gln Cys Leu Ala Thr Gly
            485             490             495
Asn Trp Asn Ser Val Pro Pro Glu Cys Gln Ala Ile Pro Cys Thr Pro
            500             505             510
Leu Leu Ser Pro Gln Asn Gly Thr Met Thr Cys Val Gln Pro Leu Gly
            515             520             525
Ser Ser Ser Tyr Lys Ser Thr Cys Gln Phe Ile Cys Asp Glu Gly Tyr
            530             535             540
Ser Leu Ser Gly Pro Glu Arg Leu Asp Cys Thr Arg Ser Gly Arg Trp
545             550             555             560
Thr Asp Ser Pro Pro Met Cys Glu Ala Ile Lys Cys Pro Glu Leu Phe
            565             570             575
Ala Pro Glu Gln Gly Ser Leu Asp Cys Ser Asp Thr Arg Gly Glu Phe
            580             585             590
Asn Val Gly Ser Thr Cys His Phe Ser Cys Asp Asn Gly Phe Lys Leu
            595             600             605
Glu Gly Pro Asn Asn Val Glu Cys Thr Thr Ser Gly Arg Trp Ser Ala
610             615             620
Thr Pro Pro Thr Cys Lys Gly Ile Ala Ser Leu Pro Thr Pro Gly Val
625             630             635             640
Gln Cys Pro Ala Leu Thr Thr Pro Gly Gln Gly Thr Met Tyr Cys Arg
            645             650             655
His His Pro Gly Thr Phe Gly Phe Asn Thr Thr Cys Tyr Phe Gly Cys
            660             665             670
Asn Ala Gly Phe Thr Leu Ile Gly Asp Ser Thr Leu Ser Cys Arg Pro
            675             680             685
Ser Gly Gln Trp Thr Ala Val Thr Pro Ala Cys Arg Ala Val Lys Cys
            690             695             700
Ser Glu Leu His Val Asn Lys Pro Ile Ala Met Asn Cys Ser Asn Leu
705             710             715             720
Trp Gly Asn Phe Ser Tyr Gly Ser Ile Cys Ser Phe His Cys Leu Glu
            725             730             735
Gly Gln Leu Leu Asn Gly Ser Ala Gln Thr Ala Cys Gln Glu Asn Gly
            740             745             750
His Trp Ser Thr Thr Val Pro Thr Cys Gln Ala Gly Pro Leu Thr Ile
            755             760             765
Gln Glu Ala Leu Thr Tyr Phe Gly Gly Ala Val Ala Ser Thr Ile Gly
            770             775             780
Leu Ile Met Gly Gly Thr Leu Leu Ala Leu Leu Arg Lys Arg Phe Arg
785             790             795             800
Gln Lys Asp Asp Gly Lys Cys Pro Leu Asn Pro His Ser His Leu Gly
            805             810             815
Thr Tyr Gly Val Phe Thr Asn Ala Ala Phe Asp Pro Ser Pro
            820             825             830
```

```
<210> 32
<211> 2386
<212> PRT
<213> Homo sapiens

<400> 32
Met Leu Arg Gly Pro Gly Pro Gly Leu Leu Leu Leu Ala Val Gln Cys
 1           5               10              15
Leu Gly Thr Ala Val Pro Ser Thr Gly Ala Ser Lys Ser Lys Arg Gln
            20              25              30
Ala Gln Gln Met Val Gln Pro Gln Ser Pro Val Ala Val Ser Gln Ser
        35              40              45
Lys Pro Gly Cys Tyr Asp Asn Gly Lys His Tyr Gln Ile Asn Gln Gln
    50              55              60
Trp Glu Arg Thr Tyr Leu Gly Asn Ala Leu Val Cys Thr Cys Tyr Gly
65              70              75              80
Gly Ser Arg Gly Phe Asn Cys Glu Ser Lys Pro Glu Ala Glu Glu Thr
            85              90              95
```

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```
Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr Tyr
        100                 105             110
Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly Ala
        115             120             125
Gly Arg Gly Arg Ile Ser Cys Thr Ile Ala Asn Arg Cys His Glu Gly
    130             135             140
Gly Gln Ser Tyr Lys Ile Gly Asp Thr Trp Arg Arg Pro His Glu Thr
145             150             155             160
Gly Gly Tyr Met Leu Glu Cys Val Cys Leu Gly Asn Gly Lys Gly Glu
            165             170             175
Trp Thr Cys Lys Pro Ile Ala Glu Lys Cys Phe Asp His Ala Ala Gly
        180             185             190
Thr Ser Tyr Val Val Gly Glu Thr Trp Glu Lys Pro Tyr Gln Gly Trp
        195             200             205
Met Met Val Asp Cys Thr Cys Leu Gly Glu Gly Ser Gly Arg Ile Thr
210             215             220
Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser Tyr
225             230             235             240
Arg Ile Gly Asp Thr Trp Ser Lys Lys Asp Asn Arg Gly Asn Leu Leu
            245             250             255
Gln Cys Ile Cys Thr Gly Asn Gly Arg Gly Glu Trp Lys Cys Glu Arg
        260             265             270
His Thr Ser Val Gln Thr Thr Ser Ser Gly Ser Gly Pro Phe Thr Asp
        275             280             285
Val Arg Ala Ala Val Tyr Gln Pro Gln Pro His Pro Gln Pro Pro Pro
    290             295             300
Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly Met
305             310             315             320
Gln Trp Leu Lys Thr Gln Gly Asn Lys Gln Met Leu Cys Thr Cys Leu
            325             330             335
Gly Asn Gly Val Ser Cys Gln Glu Thr Ala Val Thr Gln Thr Tyr Gly
        340             345             350
Gly Asn Ser Asn Gly Glu Pro Cys Val Leu Pro Phe Thr Tyr Asn Gly
        355             360             365
Arg Thr Phe Tyr Ser Cys Thr Thr Glu Gly Arg Gln Asp Gly His Leu
370             375             380
Trp Cys Ser Thr Thr Ser Asn Tyr Glu Gln Asp Gln Lys Tyr Ser Phe
385             390             395             400
Cys Thr Asp His Thr Val Leu Val Gln Thr Arg Gly Gly Asn Ser Asn
            405             410             415
Gly Ala Leu Cys His Phe Pro Phe Leu Tyr Asn Asn His Asn Tyr Thr
            420             425             430
Asp Cys Thr Ser Glu Gly Arg Arg Asp Asn Met Lys Trp Cys Gly Thr
        435             440             445
Thr Gln Asn Tyr Asp Ala Asp Gln Lys Phe Gly Phe Cys Pro Met Ala
    450             455             460
Ala His Glu Glu Ile Cys Thr Thr Asn Glu Gly Val Met Tyr Arg Ile
465             470             475             480
Gly Asp Gln Trp Asp Lys Gln His Asp Met Gly His Met Met Arg Cys
            485             490             495
Thr Cys Val Gly Asn Gly Arg Gly Glu Trp Thr Cys Ile Ala Tyr Ser
            500             505             510
Gln Leu Arg Asp Gln Cys Ile Val Asp Asp Ile Thr Tyr Asn Val Asn
        515             520             525
Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys Thr
        530             535             540
Cys Phe Gly Gln Gly Arg Gly Arg Trp Lys Cys Asp Pro Val Asp Gln
545             550             555             560
Cys Gln Asp Ser Glu Thr Gly Thr Phe Tyr Gln Ile Gly Asp Ser Trp
            565             570             575
Glu Lys Tyr Val His Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly Arg
            580             585             590
Gly Ile Gly Glu Trp His Cys Gln Pro Leu Gln Thr Tyr Pro Ser Ser
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          595                     600                     605
Ser Gly Pro Val Glu Val Phe Ile Thr Glu Thr Pro Ser Gln Pro Asn
    610                     615                     620
Ser His Pro Ile Gln Trp Asn Ala Pro Gln Pro Ser His Ile Ser Lys
625                     630                     635                 640
Tyr Ile Leu Arg Trp Arg Pro Lys Asn Ser Val Gly Arg Trp Lys Glu
                645                     650                     655
Ala Thr Ile Pro Gly His Leu Asn Ser Tyr Thr Ile Lys Gly Leu Lys
            660                     665                     670
Pro Gly Val Val Tyr Glu Gly Gln Leu Ile Ser Ile Gln Gln Tyr Gly
        675                     680                     685
His Gln Glu Val Thr Arg Phe Asp Phe Thr Thr Thr Ser Thr Ser Thr
    690                     695                     700
Pro Val Thr Ser Asn Thr Val Thr Gly Glu Thr Thr Pro Phe Ser Pro
705                     710                     715                 720
Leu Val Ala Thr Ser Glu Ser Val Thr Glu Ile Thr Ala Ser Ser Phe
                725                     730                     735
Val Val Ser Trp Val Ser Ala Ser Asp Thr Val Ser Gly Phe Arg Val
            740                     745                     750
Glu Tyr Glu Leu Ser Glu Glu Gly Asp Glu Pro Gln Tyr Leu Asp Leu
        755                     760                     765
Pro Ser Thr Ala Thr Ser Val Asn Ile Pro Asp Leu Leu Pro Gly Arg
    770                     775                     780
Lys Tyr Ile Val Asn Val Tyr Gln Ile Ser Glu Asp Gly Glu Gln Ser
785                     790                     795                 800
Leu Ile Leu Ser Thr Ser Gln Thr Thr Ala Pro Asp Ala Pro Pro Asp
                805                     810                     815
Thr Thr Val Asp Gln Val Asp Asp Thr Ser Ile Val Val Arg Trp Ser
            820                     825                     830
Arg Pro Gln Ala Pro Ile Thr Gly Tyr Arg Ile Val Tyr Ser Pro Ser
        835                     840                     845
Val Glu Gly Ser Ser Thr Glu Leu Asn Leu Pro Glu Thr Ala Asn Ser
    850                     855                     860
Val Thr Leu Ser Asp Leu Gln Pro Gly Val Gln Tyr Asn Ile Thr Ile
865                     870                     875                 880
Tyr Ala Val Glu Glu Asn Gln Glu Ser Thr Pro Val Val Ile Gln Gln
                885                     890                     895
Glu Thr Thr Gly Thr Pro Arg Ser Asp Thr Val Pro Ser Pro Arg Asp
            900                     905                     910
Leu Gln Phe Val Glu Val Thr Asp Val Lys Val Thr Ile Met Trp Thr
        915                     920                     925
Pro Pro Glu Ser Ala Val Thr Gly Tyr Arg Val Asp Val Ile Pro Val
    930                     935                     940
Asn Leu Pro Gly Glu His Gly Gln Arg Leu Pro Ile Ser Arg Asn Thr
945                     950                     955                 960
Phe Ala Glu Val Thr Gly Leu Ser Pro Gly Val Thr Tyr Tyr Phe Lys
                965                     970                     975
Val Phe Ala Val Ser His Gly Arg Glu Ser Lys Pro Leu Thr Ala Gln
            980                     985                     990
Gln Thr Thr Lys Leu Asp Ala Pro Thr Asn Leu Gln Phe Val Asn Glu
        995                     1000                    1005
Thr Asp Ser Thr Val Leu Val Arg Trp Thr Pro Pro Arg Ala Gln Ile
    1010                    1015                    1020
Thr Gly Tyr Arg Leu Thr Val Gly Leu Thr Arg Arg Gly Gln Pro Arg
1025                    1030                    1035                1040
Gln Tyr Asn Val Gly Pro Ser Val Ser Lys Tyr Pro Leu Arg Asn Leu
                1045                    1050                    1055
Gln Pro Ala Ser Glu Tyr Thr Val Ser Leu Val Ala Ile Lys Gly Asn
            1060                    1065                    1070
Gln Glu Ser Pro Lys Ala Thr Gly Val Phe Thr Thr Leu Gln Pro Gly
        1075                    1080                    1085
Ser Ser Ile Pro Pro Tyr Asn Thr Glu Val Thr Glu Thr Thr Ile Val
    1090                    1095                    1100
```

Ile Thr Trp Thr Pro Ala Pro Arg Ile Gly Phe Lys Leu Gly Val Arg
1105   1110   1115   1120
Pro Ser Gln Gly Gly Glu Ala Pro Arg Glu Val Thr Ser Asp Ser Gly
                1125   1130   1135
Ser Ile Val Val Ser Gly Leu Thr Pro Gly Val Glu Tyr Val Tyr Thr
                1140   1145   1150
Ile Gln Val Leu Arg Asp Gly Gln Glu Arg Asp Ala Pro Ile Val Asn
                1155   1160   1165
Lys Val Val Thr Pro Leu Ser Pro Pro Thr Asn Leu His Leu Glu Ala
                1170   1175   1180
Asn Pro Asp Thr Gly Val Leu Thr Val Ser Trp Glu Arg Ser Thr Thr
1185   1190   1195   1200
Pro Asp Ile Thr Gly Tyr Arg Ile Thr Thr Thr Pro Thr Asn Gly Gln
                1205   1210   1215
Gln Gly Asn Ser Leu Glu Glu Val Val His Ala Asp Gln Ser Ser Cys
                1220   1225   1230
Thr Phe Asp Asn Leu Ser Pro Gly Leu Glu Tyr Asn Val Ser Val Tyr
                1235   1240   1245
Thr Val Lys Asp Asp Lys Glu Ser Val Pro Ile Ser Asp Thr Ile Ile
                1250   1255   1260
Pro Ala Val Pro Pro Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro
1265   1270   1275   1280
Asp Thr Met Arg Val Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr
                1285   1290   1295
Asn Phe Leu Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala
                1300   1305   1310
Glu Leu Ser Ile Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu
                1315   1320   1325
Leu Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln
                1330   1335   1340
His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser
1345   1350   1355   1360
Pro Thr Gly Ile Asp Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val
                1365   1370   1375
His Trp Ile Ala Pro Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His
                1380   1385   1390
His Pro Glu His Phe Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His
                1395   1400   1405
Ser Arg Asn Ser Ile Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr
                1410   1415   1420
Val Val Ser Ile Val Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu
1425   1430   1435   1440
Ile Gly Gln Gln Ser Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val
                1445   1450   1455
Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala
                1460   1465   1470
Val Thr Val Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn
                1475   1480   1485
Ser Pro Val Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr
                1490   1495   1500
Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala
1505   1510   1515   1520
Val Thr Gly Arg Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile
                1525   1530   1535
Asn Tyr Arg Thr Glu Ile Asp Lys Pro Ser Gln Met Gln Val Thr Asp
                1540   1545   1550
Val Gln Asp Asn Ser Ile Ser Val Lys Trp Leu Pro Ser Ser Ser Pro
                1555   1560   1565
Val Thr Gly Tyr Arg Val Thr Thr Thr Pro Lys Asn Gly Pro Gly Pro
                1570   1575   1580
Thr Lys Thr Lys Thr Ala Gly Pro Asp Gln Thr Glu Met Thr Ile Glu
1585   1590   1595   1600
Gly Leu Gln Pro Thr Val Glu Tyr Val Val Ser Val Tyr Ala Gln Asn
                              Page 35

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                1605                1610                1615
Pro Ser Gly Glu Ser Gln Pro Leu Val Gln Thr Ala Val Thr Asn Ile
            1620                1625                1630
Asp Arg Pro Lys Gly Leu Ala Phe Thr Asp Val Asp Val Asp Ser Ile
        1635                1640                1645
Lys Ile Ala Trp Glu Ser Pro Gln Gly Gln Val Ser Arg Tyr Arg Val
    1650                1655                1660
Thr Tyr Ser Ser Pro Glu Asp Gly Ile His Glu Leu Phe Pro Ala Pro
1665                1670                1675                1680
Asp Gly Glu Glu Asp Thr Ala Glu Leu Gln Gly Leu Arg Pro Gly Ser
            1685                1690                1695
Glu Tyr Thr Val Ser Val Val Ala Leu His Asp Asp Met Glu Ser Gln
        1700                1705                1710
Pro Leu Ile Gly Thr Gln Ser Thr Ala Ile Pro Ala Pro Thr Asp Leu
    1715                1720                1725
Lys Phe Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr Pro
    1730                1735                1740
Pro Asn Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro Lys Glu
1745                1750                1755                1760
Lys Thr Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp Ser Ser Ser
                1765                1770                1775
Val Val Val Ser Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val
            1780                1785                1790
Tyr Ala Leu Lys Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly Val Val
        1795                1800                1805
Thr Thr Leu Glu Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp
    1810                1815                1820
Ala Thr Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr
1825                1830                1835                1840
Ile Thr Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro
                1845                1850                1855
Ile Gln Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly
            1860                1865                1870
Leu Gln Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp
        1875                1880                1885
Asn Ala Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr Ala Ile Asp
    1890                1895                1900
Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu
1905                1910                1915                1920
Val Ser Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys
                1925                1930                1935
Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg
            1940                1945                1950
Pro Gly Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr Glu
        1955                1960                1965
Tyr Thr Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys Ser Glu Pro
    1970                1975                1980
Leu Ile Gly Arg Lys Lys Thr Asp Glu Leu Pro Gln Leu Val Thr Leu
1985                1990                1995                2000
Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr
                2005                2010                2015
Val Gln Lys Thr Pro Phe Val Thr His Pro Gly Tyr Asp Thr Gly Asn
            2020                2025                2030
Gly Ile Gln Leu Pro Gly Thr Ser Gly Gln Gln Pro Ser Val Gly Gln
        2035                2040                2045
Gln Met Ile Phe Glu Glu His Gly Phe Arg Arg Thr Thr Pro Pro Thr
    2050                2055                2060
Thr Ala Thr Pro Ile Arg His Arg Pro Arg Pro Tyr Pro Pro Asn Val
2065                2070                2075                2080
Gly Glu Glu Ile Gln Ile Gly His Ile Pro Arg Glu Asp Val Asp Tyr
                2085                2090                2095
His Leu Tyr Pro His Gly Pro Gly Leu Asn Pro Asn Ala Ser Thr Gly
            2100                2105                2110
```

Gln Glu Ala Leu Ser Gln Thr Thr Ile Ser Trp Ala Pro Phe Gln Asp
            2115   2120   2125
Thr Ser Glu Tyr Ile Ile Ser Cys His Pro Val Gly Thr Asp Glu Glu
    2130   2135   2140
Pro Leu Gln Phe Arg Val Pro Gly Thr Ser Thr Ser Ala Thr Leu Thr
2145   2150   2155   2160
Gly Leu Thr Arg Gly Ala Thr Tyr Asn Val Ile Val Glu Ala Leu Lys
            2165   2170   2175
Asp Gln Gln Arg His Lys Val Arg Glu Glu Val Val Thr Val Gly Asn
            2180   2185   2190
Ser Val Asn Glu Gly Leu Asn Gln Pro Thr Asp Asp Ser Cys Phe Asp
            2195   2200   2205
Pro Tyr Thr Val Ser His Tyr Ala Val Gly Asp Glu Trp Glu Arg Met
    2210   2215   2220
Ser Glu Ser Gly Phe Lys Leu Leu Cys Gln Cys Leu Gly Phe Gly Ser
2225   2230   2235   2240
Gly His Phe Arg Cys Asp Ser Ser Arg Trp Cys His Asp Asn Gly Val
            2245   2250   2255
Asn Tyr Lys Ile Gly Glu Lys Trp Asp Arg Gln Gly Glu Asn Gly Gln
            2260   2265   2270
Met Met Ser Cys Thr Cys Leu Gly Asn Gly Lys Gly Glu Phe Lys Cys
            2275   2280   2285
Asp Pro His Glu Ala Thr Cys Tyr Asp Asp Gly Lys Thr Tyr His Val
    2290   2295   2300
Gly Glu Gln Trp Gln Lys Glu Tyr Leu Gly Ala Ile Cys Ser Cys Thr
2305   2310   2315   2320
Cys Phe Gly Gly Gln Arg Gly Trp Arg Cys Asp Asn Cys Arg Arg Pro
            2325   2330   2335
Gly Gly Glu Pro Ser Pro Glu Gly Thr Thr Gly Gln Ser Tyr Asn Gln
            2340   2345   2350
Tyr Ser Gln Arg Tyr His Gln Arg Thr Asn Thr Asn Val Asn Cys Pro
    2355   2360   2365
Ile Glu Cys Phe Met Pro Leu Asp Val Gln Ala Asp Arg Glu Asp Ser
    2370   2375   2380
Arg Glu
2385

<210> 33
<211> 953
<212> PRT
<213> Homo sapiens

<400> 33
Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile Gly Ile Lys Lys
1   5   10   15
Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe Leu Leu Ile Tyr
            20   25   30
Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Thr Leu Val Leu Ser
    35   40   45
Gly Glu Tyr Ser Ile Gly Gln Val Leu Thr Val Phe Phe Ser Val Leu
    50   55   60
Ile Gly Ala Phe Ser Val Gly Gln Ala Ser Pro Ser Ile Glu Ala Phe
65   70   75   80
Ala Asn Ala Arg Gly Ala Ala Tyr Glu Ile Phe Lys Ile Ile Asp Asn
            85   90   95
Lys Pro Ser Ile Asp Ser Tyr Ser Ser Gly His Lys Pro Asp Asn
            100   105   110
Ile Lys Gly Asn Leu Glu Phe Arg Asn Val His Phe Ser Tyr Pro Ser
        115   120   125
Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn Leu Lys Val Gln Ser
    130   135   140
Gly Gln Thr Val Ala Leu Val Gly Asn Ser Gly Cys Gly Lys Ser Thr
145   150   155   160

Thr Val Gln Leu Met Gln Arg Leu Tyr Asp Pro Thr Glu Gly Met Val
                165   170   175
Ser Val Asp Gly Gln Asp Ile Arg Thr Ile Asn Val Arg Phe Leu Arg
                180   185   190
Glu Ile Ile Gly Val Val Ser Gln Glu Pro Val Leu Phe Ala Thr Thr
                195   200   205
Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asn Val Thr Met Asp Glu
        210   215   220
Ile Glu Lys Ala Val Lys Glu Ala Asn Ala Tyr Asp Phe Ile Met Lys
225   230   235   240
Leu Pro His Lys Phe Asp Thr Leu Val Gly Glu Arg Gly Ala Gln Leu
                245   250   255
Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala Leu Val Arg
                260   265   270
Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp Thr
            275   280   285
Glu Ser Glu Ala Val Val Gln Val Ala Leu Asp Lys Ala Arg Lys Gly
        290   295   300
Arg Thr Thr Ile Val Ile Ala His Arg Leu Ser Thr Val Arg Asn Ala
305   310   315   320
Asp Val Ile Ala Gly Phe Asp Asp Gly Val Ile Val Glu Lys Gly Asn
                325   330   335
His Asp Glu Leu Met Lys Glu Lys Gly Ile Tyr Phe Lys Leu Val Thr
                340   345   350
Met Gln Asp Glu Ser Ile Pro Pro Val Ser Phe Trp Arg Ile Met Lys
                355   360   365
Leu Asn Leu Thr Glu Trp Pro Tyr Phe Val Val Gly Val Phe Cys Ala
        370   375   380
Ile Ile Asn Gly Gly Leu Gln Pro Ala Phe Ala Ile Ile Phe Ser Lys
385   390   395   400
Ile Ile Gly Val Phe Thr Arg Ile Asp Asp Pro Glu Thr Lys Arg Gln
                405   410   415
Asn Ser Asn Leu Phe Ser Leu Leu Phe Leu Ala Leu Gly Ile Ile Ser
                420   425   430
Phe Ile Thr Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly Glu
        435   440   445
Ile Leu Thr Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu Arg
        450   455   460
Gln Asp Val Ser Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala Leu
465   470   475   480
Thr Thr Arg Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile Gly
                485   490   495
Ser Arg Leu Ala Val Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr Gly
                500   505   510
Ile Ile Ile Ser Phe Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu Leu
                515   520   525
Ala Ile Val Pro Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys Met
        530   535   540
Leu Ser Gly Gln Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ser Gly
545   550   555   560
Lys Ile Ala Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser Leu
                565   570   575
Thr Gln Glu Gln Lys Phe Glu His Met Tyr Ala Gln Ser Leu Gln Val
                580   585   590
Pro Tyr Arg Asn Ser Leu Arg Lys Ala His Ile Phe Gly Ile Thr Phe
        595   600   605
Ser Phe Thr Gln Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg
        610   615   620
Phe Gly Ala Tyr Leu Val Ala His Lys Leu Met Ser Phe Glu Asp Val
625   630   635   640
Leu Leu Val Phe Ser Ala Val Val Phe Gly Ala Met Ala Val Gly Gln
                645   650   655
Val Ser Ser Phe Ala Pro Asp Tyr Ala Lys Ala Lys Ile Ser Ala Ala

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               660                    665                    670
His Ile Ile Met Ile Ile Glu Lys Thr Pro Leu Ile Asp Ser Tyr Ser
               675                    680                    685
Thr Glu Gly Leu Met Pro Asn Thr Leu Glu Gly Asn Val Thr Phe Gly
       690                    695                    700
Glu Val Val Phe Asn Tyr Pro Thr Arg Pro Asp Ile Pro Val Leu Gln
705                    710                    715                    720
Gly Leu Ser Leu Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val Gly
               725                    730                    735
Ser Ser Gly Cys Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg Phe
               740                    745                    750
Tyr Asp Pro Leu Ala Gly Lys Val Leu Ile Cys Glu Leu Phe Gln Leu
       755                    760                    765
Leu Asp Gly Lys Glu Ile Lys Arg Leu Asn Val Gln Trp Leu Arg Ala
       770                    775                    780
His Leu Gly Ile Val Ser Gln Glu Pro Ile Leu Phe Asp Cys Ser Ile
785                    790                    795                    800
Ala Glu Asn Ile Ala Tyr Gly Asp Asn Ser Arg Val Val Ser Gln Glu
               805                    810                    815
Glu Ile Val Arg Ala Ala Lys Glu Ala Asn Ile His Ala Phe Ile Glu
               820                    825                    830
Ser Leu Pro Asn Lys Tyr Ser Thr Lys Val Gly Asp Lys Gly Thr Gln
       835                    840                    845
Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala Leu Val
       850                    855                    860
Arg Gln Pro His Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp
865                    870                    875                    880
Thr Glu Ser Glu Lys Val Val Gln Glu Ala Leu Asp Lys Ala Arg Glu
               885                    890                    895
Gly Arg Thr Cys Ile Val Ile Ala His Arg Leu Ser Thr Ile Gln Asn
               900                    905                    910
Ala Asp Leu Ile Val Val Phe Gln Asn Gly Arg Val Lys Glu His Gly
       915                    920                    925
Thr His Gln Gln Leu Leu Ala Gln Lys Gly Ile Tyr Phe Ser Met Val
       930                    935                    940
Ser Val Gln Ala Gly Thr Lys Arg Gln
945                    950
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<210> 34
<211> 1537
<212> PRT
<213> Homo sapiens

<400> 34

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Met Ser Leu Ser Phe Cys Gly Asn Asn Ile Ser Ser Tyr Asn Ile Asn
 1               5                    10                   15
Asp Gly Val Leu Gln Asn Ser Cys Phe Val Asp Ala Leu Asn Leu Val
               20                   25                   30
Pro His Val Phe Leu Leu Phe Ile Thr Phe Pro Ile Leu Phe Ile Gly
       35                   40                   45
Trp Gly Ser Gln Ser Ser Lys Val Gln Ile His His Asn Thr Trp Leu
       50                   55                   60
His Phe Pro Gly His Asn Leu Arg Trp Ile Leu Thr Phe Ala Leu Leu
65                   70                   75                   80
Phe Val His Val Cys Glu Ile Ala Glu Gly Ile Val Ser Asp Ser Arg
               85                   90                   95
Arg Glu Ser Arg His Leu His Leu Phe Met Pro Ala Val Met Gly Phe
               100                  105                  110
Val Ala Thr Thr Thr Ser Ile Val Tyr Tyr His Asn Ile Glu Thr Ser
       115                  120                  125
Asn Phe Pro Lys Leu Leu Leu Ala Leu Phe Leu Tyr Trp Val Met Ala
       130                  135                  140
Phe Ile Thr Lys Thr Ile Lys Leu Val Lys Tyr Cys Gln Ser Gly Leu
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145                    150                    155                         160
Asp Ile Ser Asn Leu Arg Phe Cys Ile Thr Gly Met Met Val Ile Leu
               165                    170                    175
Asn Gly Leu Leu Met Ala Val Glu Ile Asn Val Ile Arg Val Arg Arg
               180                    185                    190
Tyr Val Phe Phe Met Asn Pro Gln Lys Val Lys Pro Pro Glu Asp Leu
       195                    200                    205
Gln Asp Leu Gly Val Arg Phe Leu Gln Pro Phe Val Asn Leu Leu Ser
210                    215                    220
Lys Ala Thr Tyr Trp Trp Met Asn Thr Leu Ile Ile Ser Ala His Lys
225                    230                    235                    240
Lys Pro Ile Asp Leu Lys Ala Ile Gly Lys Leu Pro Ile Ala Met Arg
               245                    250                    255
Ala Val Thr Asn Tyr Val Cys Leu Lys Asp Ala Tyr Glu Glu Gln Lys
               260                    265                    270
Lys Lys Val Ala Asp His Pro Asn Arg Thr Pro Ser Ile Trp Leu Ala
       275                    280                    285
Met Tyr Arg Ala Phe Gly Arg Pro Ile Leu Leu Ser Ser Thr Phe Arg
       290                    295                    300
Tyr Leu Ala Asp Leu Leu Gly Phe Ala Gly Pro Leu Cys Ile Ser Gly
305                    310                    315                    320
Ile Val Gln Arg Val Asn Glu Thr Gln Asn Gly Thr Asn Asn Thr Thr
               325                    330                    335
Gly Ile Ser Glu Thr Leu Ser Ser Lys Glu Phe Leu Glu Asn Ala Tyr
               340                    345                    350
Val Leu Ala Val Leu Leu Phe Leu Ala Leu Ile Leu Gln Arg Thr Phe
       355                    360                    365
Leu Gln Ala Ser Tyr Tyr Val Thr Ile Glu Thr Gly Ile Asn Leu Arg
       370                    375                    380
Gly Ala Leu Leu Ala Met Ile Tyr Asn Lys Ile Leu Arg Leu Ser Thr
385                    390                    395                    400
Ser Asn Leu Ser Met Gly Glu Met Thr Leu Gly Gln Ile Asn Asn Leu
               405                    410                    415
Val Ala Ile Glu Thr Asn Gln Leu Met Trp Phe Leu Phe Leu Cys Pro
               420                    425                    430
Asn Leu Trp Ala Met Pro Val Gln Ile Ile Met Gly Val Ile Leu Leu
               435                    440                    445
Tyr Asn Leu Leu Gly Ser Ser Ala Leu Val Gly Ala Ala Val Ile Val
       450                    455                    460
Leu Leu Ala Pro Ile Gln Tyr Phe Ile Ala Thr Lys Leu Ala Glu Ala
465                    470                    475                    480
Gln Lys Ser Thr Leu Asp Tyr Ser Thr Glu Arg Leu Lys Lys Thr Asn
               485                    490                    495
Glu Ile Leu Lys Gly Ile Lys Leu Leu Lys Leu Tyr Ala Trp Glu His
               500                    505                    510
Ile Phe Cys Lys Ser Val Glu Glu Thr Arg Met Lys Glu Leu Ser Ser
       515                    520                    525
Leu Lys Thr Phe Ala Leu Tyr Thr Ser Leu Ser Ser Lys Leu Leu Thr
       530                    535                    540
Pro Phe Phe Ala Gln Thr Phe Val Thr His Ala Tyr Ala Ser Gly Asn
545                    550                    555                    560
Asn Leu Lys Pro Ala Glu Ala Phe Ala Ser Leu Ser Leu Phe His Ile
               565                    570                    575
Leu Val Thr Pro Leu Phe Leu Leu Ser Thr Val Val Arg Phe Ala Val
               580                    585                    590
Lys Ala Ile Ile Ser Val Gln Lys Leu Asn Glu Phe Leu Leu Ser Asp
       595                    600                    605
Glu Ile Gly Asp Asp Ser Trp Arg Thr Gly Glu Ser Ser Leu Pro Phe
       610                    615                    620
Glu Ser Cys Lys Lys His Thr Gly Val Gln Pro Lys Thr Ile Asn Arg
625                    630                    635                    640
Lys Gln Pro Gly Arg Tyr His Leu Asp Ser Tyr Glu Gln Ser Thr Arg
               645                    650                    655
```

Arg Leu Arg Pro Ala Glu Thr Glu Asp Ile Ala Ile Lys Val Thr Asn
           660   665   670

Gly Tyr Phe Ser Trp Gly Ser Gly Leu Ala Thr Leu Ser Asn Ile Asp
           675   680   685

Ile Arg Ile Pro Thr Gly Gln Leu Thr Met Ile Val Gly Gln Val Gly
      690   695   700

Cys Gly Lys Ser Ser Leu Leu Leu Ala Ile Leu Gly Glu Met Gln Thr
705   710   715   720

Leu Glu Gly Lys Val His Trp Ser Lys Tyr Val Tyr Phe Tyr Arg Asn
           725   730   735

Arg Tyr Ser Val Ala Tyr Ala Ala Gln Lys Pro Trp Leu Leu Asn Ala
           740   745   750

Thr Val Glu Glu Asn Ile Thr Phe Gly Ser Pro Phe Asn Lys Gln Arg
           755   760   765

Tyr Lys Ala Val Thr Asp Ala Cys Ser Leu Gln Pro Asp Ile Asp Leu
      770   775   780

Leu Pro Phe Gly Asp Gln Thr Glu Ile Gly Glu Arg Gly Ile Asn Leu
785   790   795   800

Ser Gly Gly Gln Arg Gln Arg Ile Cys Val Ala Arg Ala Leu Tyr Gln
           805   810   815

Asn Thr Asn Ile Val Phe Leu Asp Asp Pro Phe Ser Ala Leu Asp Ile
           820   825   830

His Leu Ser Asp His Leu Met Gln Glu Gly Ile Leu Lys Phe Leu Gln
           835   840   845

Asp Asp Lys Arg Thr Leu Val Leu Val Thr His Lys Leu Gln Tyr Leu
      850   855   860

Thr His Ala Asp Trp Ile Ile Ala Met Lys Asp Gly Ser Val Leu Arg
865   870   875   880

Glu Gly Thr Leu Lys Asp Ile Gln Thr Lys Asp Val Glu Leu Tyr Glu
           885   890   895

His Trp Lys Thr Leu Met Asn Arg Gln Asp Gln Glu Leu Glu Lys Asp
           900   905   910

Met Glu Ala Asp Gln Thr Thr Leu Glu Arg Lys Thr Leu Arg Arg Ala
           915   920   925

Met Tyr Ser Arg Glu Ala Lys Ala Gln Met Glu Asp Glu Asp Glu Glu
           930   935   940

Glu Glu Glu Glu Glu Asp Glu Asp Asp Asn Met Ser Thr Val Met Arg
945   950   955   960

Leu Arg Thr Lys Met Pro Trp Lys Thr Cys Trp Arg Tyr Leu Thr Ser
           965   970   975

Gly Gly Phe Phe Leu Leu Ile Leu Met Ile Phe Ser Lys Leu Leu Lys
           980   985   990

His Ser Val Ile Val Ala Ile Asp Tyr Trp Leu Ala Thr Trp Thr Ser
           995   1000   1005

Glu Tyr Ser Ile Asn Asn Thr Gly Lys Ala Asp Gln Thr Tyr Tyr Val
      1010   1015   1020

Ala Gly Phe Ser Ile Leu Cys Gly Ala Gly Ile Phe Leu Cys Leu Val
1025   1030   1035   1040

Thr Ser Leu Thr Val Glu Trp Met Gly Leu Thr Ala Ala Lys Asn Leu
           1045   1050   1055

His His Asn Leu Leu Asn Lys Ile Ile Leu Gly Pro Ile Arg Phe Phe
           1060   1065   1070

Asp Thr Thr Pro Leu Gly Leu Ile Leu Asn Arg Phe Ser Ala Asp Thr
           1075   1080   1085

Asn Ile Ile Asp Gln His Ile Pro Pro Thr Leu Glu Ser Leu Thr Arg
      1090   1095   1100

Ser Thr Leu Leu Cys Leu Ser Ala Ile Gly Met Ile Ser Tyr Ala Thr
1105   1110   1115   1120

Pro Val Phe Leu Val Ala Leu Leu Pro Leu Gly Val Ala Phe Tyr Phe
           1125   1130   1135

Ile Gln Lys Tyr Phe Arg Val Ala Ser Lys Asp Leu Gln Glu Leu Asp
           1140   1145   1150

Asp Ser Thr Gln Leu Pro Leu Leu Cys His Phe Ser Glu Thr Ala Glu

                1155   1160   1165
Gly Leu Thr Thr Ile Arg Ala Phe Arg His Glu Thr Arg Phe Lys Gln
    1170   1175   1180
Arg Met Leu Glu Leu Thr Asp Thr Asn Asn Ile Ala Tyr Leu Phe Leu
1185   1190   1195   1200
Ser Ala Ala Asn Arg Trp Leu Glu Val Arg Thr Asp Tyr Leu Gly Ala
                1205   1210   1215
Cys Ile Val Leu Thr Ala Ser Ile Ala Ser Ile Ser Gly Ser Ser Asn
                1220   1225   1230
Ser Gly Leu Val Gly Leu Gly Leu Leu Tyr Ala Leu Thr Ile Thr Asn
                1235   1240   1245
Tyr Leu Asn Trp Val Val Arg Asn Leu Ala Asp Leu Glu Val Gln Met
    1250   1255   1260
Gly Ala Val Lys Lys Val Asn Ser Phe Leu Thr Met Glu Ser Glu Asn
1265   1270   1275   1280
Tyr Glu Gly Thr Met Asp Pro Ser Gln Val Pro Glu His Trp Pro Gln
                1285   1290   1295
Glu Gly Glu Ile Lys Ile His Asp Leu Cys Val Arg Tyr Glu Asn Asn
                1300   1305   1310
Leu Lys Pro Val Leu Lys His Val Lys Ala Tyr Ile Lys Pro Gly Gln
                1315   1320   1325
Lys Val Gly Ile Cys Gly Arg Thr Gly Ser Gly Lys Ser Ser Leu Ser
    1330   1335   1340
Leu Ala Phe Phe Arg Met Val Asp Ile Phe Asp Gly Lys Ile Val Ile
1345   1350   1355   1360
Asp Gly Ile Asp Ile Ser Lys Leu Pro Leu His Thr Leu Arg Ser Arg
                1365   1370   1375
Leu Ser Ile Ile Leu Gln Asp Pro Ile Leu Phe Ser Gly Ser Ile Arg
                1380   1385   1390
Phe Asn Leu Asp Pro Glu Cys Lys Cys Thr Asp Asp Arg Leu Trp Glu
                1395   1400   1405
Ala Leu Glu Ile Ala Gln Leu Lys Asn Met Val Lys Ser Leu Pro Gly
    1410   1415   1420
Gly Leu Asp Ala Val Val Thr Glu Gly Gly Glu Asn Phe Ser Val Gly
1425   1430   1435   1440
Gln Arg Gln Leu Phe Cys Leu Ala Arg Ala Phe Val Arg Lys Ser Ser
                1445   1450   1455
Ile Leu Ile Met Asp Glu Ala Thr Ala Ser Ile Asp Met Ala Thr Glu
                1460   1465   1470
Asn Ile Leu Gln Lys Val Val Met Thr Ala Phe Ala Asp Arg Thr Val
    1475   1480   1485
Val Thr Ile Ala His Arg Val His Thr Ile Leu Thr Ala Asp Leu Val
    1490   1495   1500
Ile Val Met Lys Arg Gly Asn Ile Leu Glu Tyr Asp Thr Pro Glu Ser
1505   1510   1515   1520
Leu Leu Ala Gln Glu Asn Gly Val Phe Ala Ser Phe Val Arg Ala Asp
                1525   1530   1535
Met

<210> 35
<211> 676
<212> PRT
<213> Homo sapiens

<400> 35
Arg Ala Glu Leu Val Ala Leu Thr Ala Val Gln Ser Glu Gln Gly Glu
1   5   10   15
Ala Gly Gly Gly Gly Ser Pro Arg Arg Leu Gly Leu Leu Gly Ser Pro
                20   25   30
Leu Pro Pro Gly Ala Pro Leu Pro Gly Pro Gly Ser Gly Ser Gly Ser
        35   40   45
Ala Cys Gly Gln Arg Ser Ser Ala Ala His Lys Arg Tyr Arg Arg Leu

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            50                        55                        60
Gln Asn Trp Gly Tyr Asn Val Leu Glu Arg Pro Arg Gly Trp Ala Phe
65                        70                        75                        80
Val Tyr His Val Phe Ile Phe Leu Leu Val Phe Ser Cys Leu Val Leu
                         85                        90                        95
Ser Val Leu Ser Thr Ile Gln Glu His Gln Glu Leu Ala Asn Glu Cys
                100                       105                       110
Leu Leu Ile Leu Glu Phe Val Met Ile Val Val Phe Gly Leu Glu Tyr
                115                       120                       125
Ile Val Arg Val Trp Ser Ala Gly Cys Cys Cys Arg Tyr Arg Gly Trp
130                       135                       140
Gln Gly Arg Phe Arg Phe Ala Arg Lys Pro Phe Cys Val Ile Asp Phe
145                       150                       155                       160
Ile Val Phe Val Ala Ser Val Ala Val Ile Ala Ala Gly Thr Gln Gly
                165                       170                       175
Asn Ile Phe Ala Thr Ser Ala Leu Arg Ser Met Arg Phe Leu Gln Ile
                180                       185                       190
Leu Arg Met Val Arg Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu
                195                       200                       205
Gly Ser Val Val Tyr Ala His Ser Lys Glu Leu Ile Thr Ala Trp Tyr
210                       215                       220
Ile Gly Phe Leu Val Leu Ile Phe Ala Ser Phe Leu Val Tyr Leu Ala
225                       230                       235                       240
Glu Lys Asp Ala Asn Ser Asp Phe Ser Ser Tyr Ala Asp Ser Leu Trp
                245                       250                       255
Trp Gly Thr Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Thr Pro
                260                       265                       270
His Thr Trp Leu Gly Arg Val Leu Ala Ala Gly Phe Ala Leu Leu Gly
                275                       280                       285
Ile Ser Phe Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe Ala
                290                       295                       300
Leu Lys Val Gln Glu Gln His Arg Gln Lys His Phe Glu Lys Arg Arg
305                       310                       315                       320
Met Pro Ala Ala Asn Leu Ile Gln Ala Ala Trp Arg Leu Tyr Ser Thr
                325                       330                       335
Asp Met Ser Arg Ala Tyr Leu Thr Ala Thr Trp Tyr Tyr Tyr Asp Ser
                340                       345                       350
Ile Leu Pro Ser Phe Arg Glu Leu Ala Leu Leu Phe Glu His Val Gln
                355                       360                       365
Arg Ala Arg Asn Gly Gly Leu Arg Pro Leu Glu Val Arg Arg Ala Pro
                370                       375                       380
Val Pro Asp Gly Ala Pro Ser Arg Tyr Pro Pro Val Ala Thr Cys His
385                       390                       395                       400
Arg Pro Gly Ser Thr Ser Phe Cys Pro Gly Glu Ser Ser Arg Met Gly
                405                       410                       415
Ile Lys Asp Arg Ile Arg Met Gly Ser Ser Gln Arg Arg Thr Gly Pro
                420                       425                       430
Ser Lys Gln His Leu Ala Pro Pro Thr Met Pro Thr Ser Pro Ser Ser
                435                       440                       445
Glu Gln Val Gly Glu Ala Thr Ser Pro Thr Lys Val Gln Lys Ser Trp
450                       455                       460
Ser Phe Asn Asp Arg Thr Arg Phe Arg Ala Ser Leu Arg Leu Lys Pro
465                       470                       475                       480
Arg Thr Ser Ala Glu Asp Ala Pro Ser Glu Glu Val Ala Glu Glu Lys
                485                       490                       495
Ser Tyr Gln Cys Glu Leu Thr Val Asp Asp Ile Met Pro Ala Val Lys
                500                       505                       510
Thr Val Ile Arg Ser Ile Arg Ile Leu Lys Phe Leu Val Ala Lys Arg
                515                       520                       525
Lys Phe Lys Glu Thr Leu Arg Pro Tyr Asp Val Lys Asp Val Ile Glu
                530                       535                       540
Gln Tyr Ser Ala Gly His Leu Asp Met Leu Gly Arg Ile Lys Ser Leu
545                       550                       555                       560
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Gln Thr Arg Val Asp Gln Ile Val Gly Arg Gly Pro Gly Asp Arg Lys
            565                 570             575
Ala Arg Glu Lys Gly Asp Lys Gly Pro Ser Asp Ala Glu Val Val Asp
            580                 585             590
Glu Ile Ser Met Met Gly Arg Val Val Lys Val Glu Lys Gln Val Gln
            595                 600             605
Ser Ile Glu His Lys Leu Asp Leu Leu Val Gly Phe Tyr Ser Arg Trp
    610             615             620
Leu Arg Ser Gly Thr Ser Ala Ser Leu Gly Ala Val Gln Val Pro Leu
625             630             635             640
Phe Asp Pro Asp Ile Thr Ser Asp Tyr His Ser Pro Val Asp His Glu
            645             650             655
Asp Ile Ser Val Ser Ala Gln Thr Leu Ser Ile Ser Arg Ser Val Ser
            660             665             670
Thr Asn Met Asp
        675
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<210> 36
<211> 361
<212> PRT
<213> Homo sapiens

<400> 36
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Gln Ile Phe Pro Trp Lys Cys Gln Ser Thr Gln Arg Asp Leu Trp Asn
1               5               10              15
Ile Phe Lys Leu Trp Gly Trp Thr Met Leu Cys Cys Asp Phe Leu Ala
            20              25              30
His His Gly Thr Asp Cys Trp Thr Tyr His Tyr Ser Glu Lys Pro Met
        35              40              45
Asn Trp Gln Arg Ala Arg Arg Phe Cys Arg Asp Asn Tyr Thr Asp Leu
    50              55              60
Val Ala Ile Gln Asn Lys Ala Glu Ile Glu Tyr Leu Glu Lys Thr Leu
65              70              75              80
Pro Phe Ser Arg Ser Tyr Tyr Trp Ile Gly Ile Arg Lys Ile Gly Gly
            85              90              95
Ile Trp Thr Trp Val Gly Thr Asn Lys Ser Leu Thr Glu Glu Ala Glu
            100             105             110
Asn Trp Gly Asp Gly Glu Pro Asn Asn Lys Lys Asn Lys Glu Asp Cys
    115             120             125
Val Glu Ile Tyr Ile. Lys Arg Asn Lys Asp Ala Gly Lys Trp Asn Asp
    130             135             140
Asp Ala Cys His Lys Leu Lys Ala Ala Leu Cys Tyr Thr Ala Ser Cys
145             150             155             160
Gln Pro Trp Ser Cys Ser Gly His Gly Glu Cys Val Glu Ile Ile Asn
            165             170             175
Asn Tyr Thr Cys Asn Cys Asp Val Gly Tyr Tyr Gly Pro Gln Cys Gln
        180             185             190
Phe Val Ile Gln Cys Glu Pro Leu Glu Ala Pro Glu Leu Gly Thr Met
    195             200             205
Asp Cys Thr His Pro Leu Gly Asn Phe Ser Phe Ser Ser Gln Cys Ala
210             215             220
Phe Ser Cys Ser Glu Gly Thr Asn Leu Thr Gly Ile Glu Glu Thr Thr
225             230             235             240
Cys Gly Pro Phe Gly Asn Trp Ser Ser Pro Glu Pro Thr Cys Gln Val
            245             250             255
Ile Gln Cys Glu Pro Leu Ser Ala Pro Asp Leu Gly Ile Met Asn Cys
            260             265             270
Ser His Pro Leu Ala Ser Phe Ser Phe Thr Ser Ala Cys Thr Phe Ile
    275             280             285
Cys Ser Glu Gly Thr Glu Leu Ile Gly Lys Lys Lys Thr Ile Cys Glu
    290             295             300
Ser Ser Gly Ile Trp Ser Asn Pro Ser Pro Ile Cys Gln Lys Leu Asp
305             310             315             320
```

Lys Ser Phe Ser Met Ile Lys Glu Gly Asp Tyr Asn Pro Leu Phe Ile
            325   330   335
Pro Val Ala Val Met Val Thr Ala Phe Ser Gly Leu Ala Phe Ile Ile
            340   345   350
Trp Leu Ala Arg Arg Leu Lys Lys Gly
            355   360

<210> 37
<211> 611
<212> PRT
<213> Homo sapiens

<400> 37
Gln Lys Glu Gly Lys Lys Glu Arg Ala Val Val Asp Lys Val Phe Phe
 1   5   10   15
Ser Arg Leu Ile Gln Ile Leu Lys Ile Met Val Pro Arg Thr Phe Cys
            20   25   30
Lys Glu Thr Gly Tyr Leu Val Leu Ile Ala Val Met Leu Val Ser Arg
            35   40   45
Thr Tyr Cys Asp Val Trp Met Ile Gln Asn Gly Thr Leu Ile Glu Ser
     50   55   60
Gly Ile Ile Gly Arg Ser Arg Lys Asp Phe Lys Arg Tyr Leu Leu Asn
65   70   75   80
Phe Ile Ala Ala Met Pro Leu Ile Ser Leu Val Asn Asn Phe Leu Lys
            85   90   95
Tyr Gly Leu Asn Glu Leu Lys Leu Cys Phe Arg Val Arg Leu Thr Lys
            100   105   110
Tyr Leu Tyr Glu Glu Tyr Leu Gln Ala Phe Thr Tyr Tyr Lys Met Gly
            115   120   125
Asn Leu Asp Asn Arg Ile Ala Asn Pro Asp Gln Leu Leu Thr Gln Asp
     130   135   140
Val Glu Lys Phe Cys Asn Ser Val Val Asp Leu Tyr Ser Asn Leu Ser
145   150   155   160
Lys Pro Phe Leu Asp Ile Val Leu Tyr Ile Phe Lys Leu Thr Ser Ala
            165   170   175
Ile Gly Ala Gln Gly Pro Ala Ser Met Ala Tyr Leu Val Ser
            180   185   190
Gly Leu Phe Leu Thr Arg Leu Arg Arg Pro Ile Gly Lys Met Thr Ile
            195   200   205
Thr Glu Gln Lys Tyr Glu Gly Glu Tyr Arg Tyr Val Asn Ser Arg Leu
     210   215   220
Ile Thr Asn Ser Glu Glu Ile Ala Phe Tyr Asn Gly Asn Lys Arg Glu
225   230   235   240
Lys Gln Thr Val His Ser Val Phe Arg Lys Leu Val Glu His Leu His
            245   250   255
Asn Phe Ile Leu Phe Arg Phe Ser Met Gly Phe Ile Asp Ser Ile Ile
            260   265   270
Ala Lys Tyr Leu Ala Thr Val Val Gly Tyr Leu Val Val Ser Arg Pro
            275   280   285
Phe Leu Asp Leu Ser His Pro Arg His Leu Lys Ser Thr His Ser Glu
            290   295   300
Leu Leu Glu Asp Tyr Tyr Gln Ser Gly Arg Met Leu Leu Arg Met Ser
305   310   315   320
Gln Ala Leu Gly Arg Ile Val Leu Ala Gly Arg Glu Met Thr Arg Leu
            325   330   335
Ala Gly Phe Thr Ala Arg Ile Thr Glu Leu Met Gln Val Leu Lys Asp
            340   345   350
Leu Asn His Gly Lys Tyr Glu Arg Thr Met Val Ser Gln Gln Glu Lys
            355   360   365
Gly Ile Glu Gly Val Gln Val Ile Pro Leu Ile Pro Gly Ala Gly Glu
     370   375   380
Ile Ile Ile Ala Asp Asn Ile Ile Lys Phe Asp His Val Pro Leu Ala
385   390   395   400

```
Thr Pro Asn Gly Asp Val Leu Ile Arg Asp Leu Asn Phe Glu Val Arg
        405             410             415
Ser Gly Ala Asn Val Leu Ile Cys Gly Pro Asn Gly Cys Gly Lys Ser
        420             425             430
Ser Leu Phe Arg Val Leu Gly Glu Leu Trp Pro Leu Phe Gly Gly Arg
        435             440             445
Leu Thr Lys Pro Glu Arg Gly Lys Leu Phe Tyr Val Pro Gln Arg Pro
    450             455             460
Tyr Met Thr Leu Gly Thr Leu Arg Asp Gln Val Ile Tyr Pro Asp Gly
465             470             475             480
Arg Glu Asp Gln Lys Arg Lys Gly Ile Ser Asp Leu Val Leu Lys Glu
            485             490             495
Tyr Leu Asp Asn Val Gln Leu Gly His Ile Leu Glu Arg Glu Gly Gly
        500             505             510
Trp Asp Ser Val Gln Asp Trp Met Asp Val Leu Ser Gly Gly Glu Lys
        515             520             525
Gln Arg Met Ala Met Ala Arg Leu Phe Tyr His Lys Pro Gln Phe Ala
    530             535             540
Ile Leu Asp Glu Cys Thr Ser Ala Val Ser Val Asp Val Glu Gly Tyr
545             550             555             560
Ile Tyr Ser His Cys Arg Lys Val Gly Ile Thr Leu Phe Thr Val Ser
            565             570             575
His Arg Lys Ser Leu Trp Lys His His Glu Tyr Tyr Leu His Met Asp
        580             585             590
Gly Arg Gly Asn Tyr Glu Phe Lys Gln Ile Thr Glu Asp Thr Val Glu
    595             600             605
Phe Gly Ser
    610
```

<210> 38
<211> 522
<212> PRT
<213> Homo sapiens

<400> 38
```
Met Gly His Leu Leu Thr Leu Val Phe Ile Leu Ala Leu Ala Gly Pro
1               5               10              15
Val Leu Gly Leu Lys Glu Cys Thr Arg Gly Ser Ala Val Trp Cys Gln
        20              25              30
Asn Val Lys Thr Ala Ser Asp Cys Gly Ala Val Lys His Cys Leu Gln
        35              40              45
Thr Val Trp Asn Lys Pro Thr Val Lys Ser Leu Pro Cys Asp Ile Cys
    50              55              60
Lys Asp Val Val Thr Ala Ala Gly Asp Met Leu Lys Asp Asn Ala Thr
65              70              75              80
Glu Glu Glu Ile Leu Val Tyr Leu Glu Lys Thr Cys Asp Trp Leu Pro
            85              90              95
Lys Pro Asn Met Ser Ala Ser Cys Lys Glu Ile Val Asp Ser Tyr Leu
        100             105             110
Pro Val Ile Leu Asp Ile Ile Lys Gly Glu Met Ser Arg Pro Gly Glu
        115             120             125
Val Cys Ser Ala Leu Asn Leu Cys Glu Ser Leu Gln Lys His Leu Ala
        130             135             140
Glu Leu Asn His Gln Lys Gln Leu Glu Ser Asn Lys Ile Pro Glu Leu
145             150             155             160
Asp Met Thr Glu Val Val Ala Pro Phe Met Ala Asn Ile Pro Leu Leu
            165             170             175
Leu Tyr Pro Gln Asp Gly Pro Arg Ser Lys Pro Gln Pro Lys Asp Asn
        180             185             190
Gly Asp Val Cys Gln Asp Cys Ile Gln Met Val Thr Asp Ile Gln Thr
    195             200             205
Ala Val Arg Thr Asn Ser Thr Phe Val Gln Ala Leu Val Glu His Val
210             215             220
```

```
Lys Glu Glu Cys Asp Arg Leu Gly Pro Gly Met Ala Asp Ile Cys Lys
225                 230                 235                 240
Asn Tyr Ile Ser Gln Tyr Ser Glu Ile Ala Ile Gln Met Met Met His
                245                 250                 255
Met Gln Pro Lys Glu Ile Cys Ala Leu Val Gly Phe Cys Asp Glu Val
            260                 265                 270
Lys Glu Met Pro Met Gln Thr Leu Val Pro Ala Lys Val Ala Ser Lys
        275                 280                 285
Asn Val Ile Pro Ala Leu Glu Leu Val Glu Pro Ile Lys Lys His Glu
        290                 295                 300
Val Pro Ala Lys Ser Asp Val Tyr Cys Glu Val Cys Glu Phe Leu Val
305                 310                 315                 320
Lys Glu Val Thr Lys Leu Ile Asp Asn Asn Lys Thr Glu Lys Glu Ile
                325                 330                 335
Leu Asp Ala Phe Asp Lys Met Cys Ser Lys Leu Pro Lys Ser Leu Ser
                340                 345                 350
Glu Glu Cys Gln Glu Val Val Asp Thr Tyr Gly Ser Ser Ile Leu Ser
        355                 360                 365
Ile Leu Leu Glu Glu Val Ser Pro Glu Leu Val Cys Ser Met Leu His
        370                 375                 380
Leu Cys Ser Gly Thr Arg Leu Pro Ala Leu Thr Val His Val Thr Gln
385                 390                 395                 400
Pro Lys Asp Gly Gly Phe Cys Glu Val Cys Lys Lys Leu Val Gly Tyr
                405                 410                 415
Leu Asp Arg Asn Leu Glu Lys Asn Ser Thr Lys Gln Glu Ile Leu Ala
            420                 425                 430
Ala Leu Glu Lys Gly Cys Ser Phe Leu Pro Asp Pro Tyr Gln Lys Gln
            435                 440                 445
Cys Asp Gln Phe Val Ala Glu Tyr Glu Pro Val Leu Ile Glu Ile Leu
        450                 455                 460
Val Glu Val Met Asp Pro Ser Phe Val Cys Leu Lys Ile Gly Ala Cys
465                 470                 475                 480
Pro Ser Ala His Lys Pro Leu Leu Gly Thr Glu Lys Cys Ile Trp Gly
                485                 490                 495
Pro Ser Tyr Trp Cys Gln Asn Thr Glu Thr Ala Ala Gln Cys Asn Ala
                500                 505                 510
Val Glu His Cys Lys Arg His Val Trp Asn
                515                 520
```

<210> 39
<211> 236
<212> PRT
<213> Homo sapiens

<400> 39

```
Leu Thr Glu Arg Ala Asp Phe Gln Tyr Ser Gln Arg Glu Leu Asp Thr
1               5                   10                  15
Ile Glu Val Phe Pro Thr Lys Ser Ala Arg Gly Asn Arg Val Ser Cys
            20                  25                  30
Met Tyr Val Arg Cys Val Pro Gly Ala Arg Tyr Thr Val Phe Phe Ser
        35                  40                  45
His Gly Asn Ala Val Asp Leu Ser Gln Met Ser Ser Phe Tyr Ile Gly
        50                  55                  60
Leu Gly Ser Arg Leu His Cys Asn Ile Phe Tyr Asp Tyr Ser Gly Tyr
65                  70                  75                  80
Gly Ala Ser Ala Gly Arg Pro Ser Glu Arg Asn Leu Tyr Ala Asp Ile
            85                  90                  95
Asp Ala Ala Trp Gln Ala Leu His Thr Arg Tyr Gly Ile Ser Pro Asp
            100                 105                 110
Ser Ile Ile Leu Tyr Gly Gln Ser Ile Gly Thr Val Pro Thr Val Asp
        115                 120                 125
Leu Ala Ser Arg Tyr Glu Cys Ala Ala Val Val Leu His Ser Pro Leu
        130                 135                 140
```

```
Thr Ser Gly Met Arg Val Ala Phe Pro Asp Thr Lys Thr Tyr Cys Phe
145             150             155             160
Asp Ala Phe Pro Asn Ile Glu Lys Val Ser Lys Ile Thr Ser Pro Val
            165             170             175
Leu Ile Ile His Gly Met Glu Asp Glu Val Ile Asp Phe Ser His Gly
            180             185             190
Leu Ala Leu Tyr Glu Arg Cys Pro Lys Ala Val Glu Pro Leu Trp Val
        195             200             205
Glu Gly Ala Gly His Asn Asp Ile Glu Leu Tyr Ser Gln Tyr Leu Glu
    210             215             220
Arg Leu Arg Arg Phe Ile Ser Gln Glu Leu Pro Ser
225             230             235
```

```
<210> 40
<211> 4647
<212> PRT
<213> Homo sapiens
```

```
<400> 40
Met Ser Glu Pro Gly Gly Gly Gly Glu Asp Gly Ser Ala Gly Leu
1           5           10          15
Glu Val Ser Ala Val Gln Asn Val Ala Asp Val Ser Val Leu Gln Lys
        20          25          30
His Leu Arg Lys Leu Val Pro Leu Leu Leu Glu Asp Gly Gly Glu Ala
        35          40          45
Pro Ala Ala Leu Glu Ala Ala Leu Glu Glu Lys Ser Ala Leu Glu Gln
    50          55          60
Met Arg Lys Phe Leu Ser Asp Pro Gln Val His Thr Val Leu Val Glu
65          70          75          80
Arg Ser Thr Leu Lys Glu Asp Val Gly Asp Glu Gly Glu Glu Glu Lys
        85          90          95
Glu Phe Ile Ser Tyr Asn Ile Asn Ile Asp Ile His Tyr Gly Val Lys
        100         105         110
Ser Asn Ser Leu Ala Phe Ile Lys Arg Thr Pro Val Ile Asp Ala Asp
    115         120         125
Lys Pro Val Ser Ser Gln Leu Arg Val Leu Thr Leu Ser Glu Asp Ser
    130         135         140
Pro Tyr Glu Thr Leu His Ser Phe Ile Ser Asn Ala Val Ala Pro Phe
145         150         155         160
Phe Lys Ser Tyr Ile Arg Glu Ser Gly Lys Ala Asp Arg Asp Gly Asp
            165         170         175
Lys Met Ala Pro Ser Val Glu Lys Lys Ile Ala Glu Leu Glu Met Gly
        180         185         190
Leu Leu His Leu Gln Gln Asn Ile Glu Ile Pro Glu Ile Ser Leu Pro
        195         200         205
Ile His Pro Met Ile Thr Asn Val Ala Lys Gln Cys Tyr Glu Arg Gly
    210         215         220
Glu Lys Pro Lys Val Thr Asp Phe Gly Asp Lys Val Glu Asp Pro Thr
225         230         235         240
Phe Leu Asn Gln Leu Gln Ser Gly Val Asn Arg Trp Ile Arg Glu Ile
            245         250         255
Gln Lys Val Thr Lys Leu Asp Arg Asp Pro Ala Ser Gly Thr Ala Leu
        260         265         270
Gln Glu Ile Ser Phe Trp Leu Asn Leu Glu Arg Ala Leu Tyr Arg Ile
        275         280         285
Gln Glu Lys Arg Glu Ser Pro Glu Val Leu Leu Thr Leu Asp Ile Leu
    290         295         300
Lys His Gly Lys Arg Phe His Ala Thr Val Ser Phe Asp Thr Asp Thr
305         310         315         320
Gly Leu Lys Gln Ala Leu Glu Thr Val Asn Asp Tyr Asn Pro Leu Met
        325         330         335
Lys Asp Phe Pro Leu Asn Asp Leu Leu Ser Ala Thr Glu Leu Asp Lys
        340         345         350
```

```
Ile Arg Gln Ala Leu Val Ala Ile Phe Thr His Leu Arg Lys Ile Arg
        355                 360                 365
Asn Thr Lys Tyr Pro Ile Gln Arg Ala Leu Arg Leu Val Glu Ala Ile
    370                 375                 380
Ser Arg Asp Leu Ser Ser Gln Leu Leu Lys Val Leu Gly Thr Arg Lys
385                 390                 395                 400
Leu Met His Val Ala Tyr Glu Glu Phe Glu Lys Val Met Val Ala Cys
                405                 410                 415
Phe Glu Val Phe Gln Thr Trp Asp Asp Glu Tyr Glu Lys Leu Gln Val
            420                 425                 430
Leu Leu Arg Asp Ile Val Lys Arg Lys Arg Glu Glu Asn Leu Lys Met
        435                 440                 445
Val Trp Arg Ile Asn Pro Ala His Arg Lys Leu Gln Ala Arg Leu Asp
    450                 455                 460
Gln Met Arg Lys Phe Arg Arg Gln His Glu Gln Leu Arg Ala Val Ile
465                 470                 475                 480
Val Arg Val Leu Arg Pro Gln Val Thr Ala Val Ala Gln Gln Asn Gln
            485                 490                 495
Gly Glu Val Pro Glu Pro Gln Asp Met Lys Val Ala Glu Val Leu Phe
            500                 505                 510
Asp Ala Ala Asp Ala Asn Ala Ile Glu Glu Val Asn Leu Ala Tyr Glu
        515                 520                 525
Asn Val Lys Glu Val Asp Gly Leu Asp Val Ser Lys Glu Gly Thr Glu
    530                 535                 540
Ala Trp Glu Ala Ala Met Lys Arg Tyr Asp Glu Arg Ile Asp Arg Val
545                 550                 555                 560
Glu Thr Arg Ile Thr Ala Arg Leu Arg Asp Gln Leu Gly Thr Ala Lys
            565                 570                 575
Asn Ala Asn Glu Met Phe Arg Ile Phe Ser Arg Phe Asn Ala Leu Phe
            580                 585                 590
Val Arg Pro His Ile Arg Gly Ala Ile Arg Glu Tyr Gln Thr Gln Leu
        595                 600                 605
Ile Gln Arg Val Lys Asp Asp Ile Glu Ser Leu His Asp Lys Phe Lys
    610                 615                 620
Val Gln Tyr Pro Gln Ser Gln Ala Cys Lys Met Ser His Val Arg Asp
625                 630                 635                 640
Leu Pro Pro Val Ser Gly Ser Ile Ile Trp Ala Lys Gln Ile Asp Arg
            645                 650                 655
Gln Leu Thr Ala Tyr Met Lys Arg Val Glu Asp Val Leu Gly Lys Gly
            660                 665                 670
Trp Glu Asn His Val Glu Gly Gln Lys Leu Lys Gln Asp Gly Asp Ser
        675                 680                 685
Phe Arg Met Lys Leu Asn Thr Gln Glu Ile Phe Asp Asp Trp Ala Arg
        690                 695                 700
Lys Val Gln Gln Arg Asn Leu Gly Val Ser Gly Arg Ile Phe Thr Ile
705                 710                 715                 720
Glu Ser Thr Arg Val Arg Gly Arg Thr Gly Asn Val Leu Lys Leu Lys
            725                 730                 735
Val Asn Phe Leu Pro Glu Ile Ile Thr Leu Ser Lys Glu Val Arg Asn
            740                 745                 750
Leu Lys Trp Leu Gly Phe Arg Val Pro Leu Ala Ile Val Asn Lys Ala
        755                 760                 765
His Gln Ala Asn Gln Leu Tyr Pro Phe Ala Ile Ser Leu Ile Glu Ser
    770                 775                 780
Val Arg Thr Tyr Glu Arg Thr Cys Glu Lys Val Glu Glu Arg Asn Thr
785                 790                 795                 800
Ile Ser Leu Leu Val Ala Gly Leu Lys Lys Glu Val Gln Ala Leu Ile
                805                 810                 815
Ala Glu Gly Ile Ala Leu Val Trp Glu Ser Tyr Lys Leu Asp Pro Tyr
            820                 825                 830
Val Gln Arg Leu Ala Glu Thr Val Phe Asn Phe Gln Glu Lys Val Asp
        835                 840                 845
Asp Leu Leu Ile Ile Glu Glu Lys Ile Asp Leu Glu Val Arg Ser Leu
```

```
     850                     855                     860
Glu Thr Cys Met Tyr Asp His Lys Thr Phe Ser Glu Ile Leu Asn Arg
865                     870                     875                     880
Val Gln Lys Ala Val Asp Asp Leu Asn Leu His Ser Tyr Ser Asn Leu
                    885                     890                     895
Pro Ile Trp Val Asn Lys Leu Asp Met Glu Ile Glu Arg Ile Leu Gly
                900                     905                     910
Val Arg Leu Gln Ala Gly Leu Arg Ala Trp Thr Gln Val Leu Leu Gly
            915                     920                     925
Gln Ala Glu Asp Lys Ala Glu Val Asp Met Asp Thr Asp Ala Pro Gln
        930                     935                     940
Val Ser His Lys Pro Gly Gly Glu Pro Lys Ile Lys Asn Val Val His
945                     950                     955                     960
Glu Leu Arg Ile Thr Asn Gln Val Ile Tyr Leu Asn Pro Pro Ile Glu
                965                     970                     975
Glu Cys Arg Tyr Lys Leu Tyr Gln Glu Met Phe Ala Trp Lys Met Val
                980                     985                     990
Val Leu Ser Leu Pro Arg Ile Gln Ser Gln Arg Tyr Gln Val Gly Val
                995                     1000                    1005
His Tyr Glu Leu Thr Glu Glu Glu Lys Phe Tyr Arg Asn Ala Leu Thr
            1010                    1015                    1020
Arg Met Pro Asp Gly Pro Val Ala Leu Glu Glu Ser Tyr Ser Ala Val
1025                    1030                    1035                    1040
Met Gly Ile Val Ser Glu Val Glu Gln Tyr Val Lys Val Trp Leu Gln
                1045                    1050                    1055
Tyr Gln Cys Leu Trp Asp Met Gln Ala Glu Asn Ile Tyr Asn Arg Leu
                1060                    1065                    1070
Gly Glu Asp Leu Asn Lys Trp Gln Ala Leu Leu Val Gln Ile Arg Lys
            1075                    1080                    1085
Ala Arg Gly Thr Phe Asp Asn Ala Glu Thr Lys Lys Glu Phe Gly Pro
        1090                    1095                    1100
Val Val Ile Asp Tyr Gly Lys Val Gln Ser Lys Val Asn Leu Lys Tyr
1105                    1110                    1115                    1120
Asp Ser Trp His Lys Glu Val Leu Ser Lys Phe Gly Gln Met Leu Gly
                1125                    1130                    1135
Ser Asn Met Thr Glu Phe His Ser Gln Ile Ser Lys Ser Arg Gln Glu
                1140                    1145                    1150
Leu Glu Gln His Ser Val Asp Thr Ala Ser Thr Ser Asp Ala Val Thr
            1155                    1160                    1165
Phe Ile Thr Tyr Val Gln Ser Leu Lys Arg Lys Ile Lys Gln Phe Glu
        1170                    1175                    1180
Lys Gln Val Glu Leu Tyr Arg Asn Gly Gln Arg Leu Leu Glu Lys Gln
1185                    1190                    1195                    1200
Arg Phe Gln Phe Pro Pro Ser Trp Leu Tyr Ile Asp Asn Ile Glu Gly
                1205                    1210                    1215
Glu Trp Gly Ala Phe Asn Asp Ile Met Arg Arg Lys Asp Ser Ala Ile
                1220                    1225                    1230
Gln Gln Gln Val Ala Asn Leu Gln Met Lys Ile Val Gln Glu Asp Arg
            1235                    1240                    1245
Ala Val Glu Ser Arg Thr Thr Asp Leu Leu Thr Asp Trp Glu Lys Thr
        1250                    1255                    1260
Lys Pro Val Thr Gly Asn Leu Arg Pro Glu Glu Ala Leu Gln Ala Leu
1265                    1270                    1275                    1280
Thr Ile Tyr Glu Gly Lys Phe Gly Arg Leu Lys Asp Asp Arg Glu Lys
                1285                    1290                    1295
Cys Ala Lys Ala Lys Glu Ala Leu Glu Leu Thr Asp Thr Gly Leu Leu
                1300                    1305                    1310
Ser Gly Ser Glu Glu Arg Val Gln Val Ala Leu Glu Glu Leu Gln Asp
            1315                    1320                    1325
Leu Lys Gly Val Trp Ser Glu Leu Ser Lys Val Trp Glu Gln Ile Asp
        1330                    1335                    1340
Gln Met Lys Glu Gln Pro Trp Val Ser Val Gln Pro Arg Lys Leu Arg
1345                    1350                    1355                    1360
```

Gln Asn Leu Asp Ala Leu Leu Asn Gln Leu Lys Ser Phe Pro Ala Arg
                1365   1370   1375
Leu Arg Gln Tyr Ala Ser Tyr Glu Phe Val Gln Arg Leu Leu Lys Gly
                1380   1385   1390
Tyr Met Lys Ile Asn Met Leu Val Ile Glu Leu Lys Ser Glu Ala Leu
                1395   1400   1405
Lys Asp Arg His Trp Lys Gln Leu Met Lys Arg Leu His Val Asn Trp
        1410   1415   1420
Val Val Ser Glu Leu Thr Leu Gly Gln Ile Trp Asp Val Asp Leu Gln
1425   1430   1435   1440
Lys Asn Glu Ala Ile Val Lys Asp Val Leu Leu Val Ala Gln Gly Glu
                1445   1450   1455
Met Ala Leu Glu Glu Phe Leu Lys Gln Ala Lys Val Trp Asn Thr Tyr
                1460   1465   1470
Glu Leu Asp Leu Val Asn Tyr Gln Asn Lys Cys Arg Leu Ile Arg Gly
                1475   1480   1485
Trp Asp Asp Leu Phe Asn Lys Val Lys Glu His Ile Asn Ser Val Ser
        1490   1495   1500
Ala Met Lys Leu Ser Pro Tyr Tyr Lys Val Phe Glu Glu Asp Ala Leu
1505   1510   1515   1520
Ser Trp Glu Asp Lys Leu Asn Arg Ile Met Ala Leu Phe Asp Val Trp
                1525   1530   1535
Ile Asp Val Gln Arg Arg Trp Val Tyr Leu Glu Gly Ile Phe Thr Gly
                1540   1545   1550
Ser Ala Asp Ile Lys His Leu Leu Pro Val Glu Thr Gln Arg Phe Gln
        1555   1560   1565
Ser Ile Ser Thr Glu Phe Leu Ala Leu Met Lys Lys Val Ser Lys Ser
        1570   1575   1580
Pro Leu Val Met Asp Val Leu Asn Ile Gln Gly Val Gln Arg Ser Leu
1585   1590   1595   1600
Glu Arg Leu Ala Asp Leu Leu Gly Lys Ile Gln Lys Ala Leu Gly Glu
                1605   1610   1615
Tyr Leu Glu Arg Glu Arg Ser Ser Phe Pro Arg Phe Tyr Phe Val Gly
                1620   1625   1630
Asp Glu Asp Leu Leu Glu Ile Ile Gly Asn Ser Lys Asn Val Ala Lys
        1635   1640   1645
Leu Gln Lys His Phe Lys Lys Met Phe Ala Gly Val Ser Ser Ile Ile
        1650   1655   1660
Leu Asn Glu Asp Asn Ser Val Val Leu Gly Ile Ser Ser Arg Glu Gly
1665   1670   1675   1680
Glu Glu Val Met Phe Lys Thr Pro Val Ser Ile Thr Glu His Pro Lys
                1685   1690   1695
Ile Asn Glu Trp Leu Thr Leu Val Glu Lys Glu Met Arg Val Thr Leu
                1700   1705   1710
Ala Lys Leu Leu Ala Glu Ser Val Thr Glu Val Glu Ile Phe Gly Lys
        1715   1720   1725
Ala Thr Ser Ile Asp Pro Asn Thr Tyr Ile Thr Trp Ile Asp Lys Tyr
        1730   1735   1740
Gln Ala Gln Leu Val Val Leu Ser Ala Gln Ile Ala Trp Ser Glu Asn
1745   1750   1755   1760
Val Glu Thr Ala Leu Ser Ser Met Gly Gly Gly Gly Asp Ala Ala Pro
                1765   1770   1775
Leu His Ser Val Leu Ser Asn Val Glu Val Thr Leu Asn Val Leu Ala
                1780   1785   1790
Asp Ser Val Leu Met Glu Gln Pro Pro Leu Arg Arg Arg Lys Leu Glu
                1795   1800   1805
His Leu Ile Thr Glu Leu Val His Gln Arg Asp Val Thr Arg Ser Leu
        1810   1815   1820
Ile Lys Ser Lys Ile Asp Asn Ala Lys Ser Phe Glu Trp Leu Ser Gln
1825   1830   1835   1840
Met Arg Phe Tyr Phe Asp Pro Lys Gln Thr Asp Val Leu Gln Gln Leu
                1845   1850   1855
Ser Ile Gln Met Ala Asn Ala Lys Phe Asn Tyr Gly Phe Glu Tyr Leu

```
                1860               1865               1870
Gly Val Gln Asp Lys Leu Val Gln Thr Pro Leu Thr Asp Arg Cys Tyr
       1875               1880               1885
Leu Thr Met Thr Gln Ala Leu Glu Ala Arg Leu Gly Gly Ser Pro Phe
       1890               1895               1900
Gly Pro Ala Gly Thr Gly Lys Thr Glu Ser Val Lys Ala Leu Gly His
1905               1910               1915               1920
Gln Leu Gly Arg Phe Val Leu Val Phe Asn Cys Asp Glu Thr Phe Asp
                1925               1930               1935
Phe Gln Ala Met Gly Arg Ile Phe Val Gly Leu Cys Gln Val Gly Ala
       1940               1945               1950
Trp Gly Cys Phe Asp Glu Phe Asn Arg Leu Glu Glu Arg Met Leu Ser
       1955               1960               1965
Ala Val Ser Gln Gln Val Gln Cys Ile Gln Glu Ala Leu Arg Glu His
       1970               1975               1980
Ser Asn Pro Asn Tyr Asp Lys Thr Ser Ala Pro Ile Thr Cys Glu Leu
1985               1990               1995               2000
Leu Asn Lys Gln Val Lys Val Ser Pro Asp Met Ala Ile Phe Ile Thr
                2005               ·2010               2015·
Met Asn Pro Ala Tyr Ala Gly Arg Ser Asn Leu Pro Asp Asn Leu Lys
                2020               2025               2030
Lys Leu Phe Arg Ser Leu Ala Met Thr Lys Pro Asp Arg Gln Leu Ile
       2035               2040               2045
Ala Gln Val Met Leu Tyr Ser Gln Gly Phe Arg Thr Ala Glu Val Leu
       2050               2055               2060
Ala Asn Lys Ile Val Pro Phe Phe Lys Leu Cys Asp Glu Gln Leu Ser
2065               2070               2075               2080
Ser Gln Ser His Tyr Asp Phe Gly Leu Arg Ala Leu Lys Ser Val Leu
                2085               2090               2095
Val Ser Ala Gly Asn Val Lys Arg Glu Arg Ile Gln Lys Ile Lys Arg
       2100               2105               2110
Glu Lys Glu Glu Arg Gly Glu Ala Val Asp Glu Gly Glu Ile Ala Glu
       2115               2120               2125
Asn Leu Pro Glu Gln Glu Ile Leu Ile Gln Ser Val Cys Glu Thr Met
2130               2135               2140
Val Pro Lys Leu Val Ala Glu Asp Ile Pro Leu Leu Phe Ser Leu Leu
2145               2150               2155               2160
Ser Asp Val Phe Pro Gly Val Gln Tyr His Arg Gly Glu Met Thr Ala
                2165               2170               2175
Leu Arg Glu Glu Leu Lys Lys Val Cys Gln Glu Met Tyr Leu Thr Tyr
                2180               2185               2190
Gly Asp Gly Glu Glu Val Gly Gly Met Trp Val Glu Lys Val Leu Gln
       2195               2200               2205
Leu Tyr Gln Ile Thr Gln Ile Asn His Gly Leu Met Met Val Gly Pro
       2210               2215               2220
Ser Gly Ser Gly Lys Ser Met Ala Trp Arg Val Leu Leu Lys Ala Leu
2225               2230               2235               2240
Glu Arg Leu Glu Gly Val Glu Gly Val Ala His Ile Ile Asp Pro Lys
                2245               2250               2255
Ala Ile Ser Lys Asp His Leu Tyr Gly Thr Leu Asp Pro Asn Thr Arg
                2260               2265               2270
Glu Trp Thr Asp Gly Leu Phe Thr His Val Leu Arg Lys Ile Ile Asp
       2275               2280               2285
Ser Val Arg Gly Glu Leu Gln Lys Arg Gln Trp Ile Val Phe Asp Gly
2290               2295               2300
Asp Val Asp Pro Glu Trp Val Glu Asn Leu Asn Ser Val Leu Asp Asp
2305               2310               2315               2320
Asn Lys Leu Leu Thr Leu Pro Asn Gly Glu Arg Leu Ser Leu Pro Pro
                2325               2330               2335
Asn Val Arg Ile Met Phe Glu Val Gln Asp Leu Lys Tyr Ala Thr Leu
       2340               2345               2350
Ala Thr Val Ser Arg Cys Gly Met Val Trp Phe Ser Glu Asp Val Leu
       2355               2360               2365
```

Ser Thr Asp Met Ile Phe Asn Asn Phe Leu Ala Arg Leu Arg Ser Ile
　　　2370　　　　　　　　2375　　　　　　　2380

Pro Leu Asp Glu Gly Glu Asp Glu Ala Gln Arg Arg Arg Lys Gly Lys
2385　　　　　　　　2390　　　　　　　2395　　　　　　　　2400

Glu Asp Glu Gly Glu Glu Ala Ala Ser Pro Met Leu Gln Ile Gln Arg
　　　　　　　2405　　　　　　　2410　　　　　　　2415

Asp Ala Ala Thr Ile Met Gln Pro Tyr Phe Thr Ser Asn Gly Leu Val
　　　　　　2420　　　　　　　2425　　　　　　　2430

Thr Lys Ala Leu Glu His Ala Phe Gln Leu Glu His Ile Met Asp Leu
　　　2435　　　　　　　2440　　　　　　　2445

Thr Arg Leu Arg Cys Leu Gly Ser Leu Phe Ser Met Leu His Gln Ala
　　　2450　　　　　　　2455　　　　　　　2460

Cys Arg Asn Val Ala Gln Tyr Asn Ala Asn His Pro Asp Phe Pro Met
2465　　　　　　　2470　　　　　　　2475　　　　　　　　2480

Gln Ile Glu Gln Leu Glu Arg Tyr Ile Gln Arg Tyr Leu Val Tyr Ala
　　　　　　2485　　　　　　　2490　　　　　　　2495

Ile Leu Trp Ser Leu Ser Gly Asp Ser Arg Leu Lys Met Arg Ala Glu
　　　　　　2500　　　　　　　2505　　　　　　　2510

Leu Gly Glu Tyr Ile Arg Arg Ile Thr Thr Val Pro Leu Pro Thr Ala
　　　2515　　　　　　　2520　　　　　　　2525

Pro Asn Ile Pro Ile Ile Asp Tyr Glu Val Ser Ile Ser Gly Glu Trp
　　　2530　　　　　　　2535　　　　　　　2540

Ser Pro Trp Gln Ala Lys Val Pro Gln Ile Glu Val Glu Thr His Lys
2545　　　　　　　2550　　　　　　　2555　　　　　　　　2560

Val Ala Ala Pro Asp Val Val Val Pro Thr Leu Asp Thr Val Arg His
　　　　　　2565　　　　　　　2570　　　　　　　2575

Glu Ala Leu Leu Tyr Thr Trp Leu Ala Glu His Lys Pro Leu Val Leu
　　　　　　2580　　　　　　　2585　　　　　　　2590

Cys Gly Pro Pro Gly Ser Gly Lys Thr Met Thr Leu Phe Ser Ala Leu
　　　2595　　　　　　　2600　　　　　　　2605

Arg Ala Leu Pro Asp Met Glu Val Val Gly Leu Asn Phe Ser Ser Ala
　　　2610　　　　　　　2615　　　　　　　2620

Thr Thr Pro Glu Leu Leu Leu Lys Thr Phe Asp His Tyr Cys Glu Tyr
2625　　　　　　　2630　　　　　　　2635　　　　　　　　2640

Arg Arg Thr Pro Asn Gly Val Val Leu Ala Pro Val Gln Leu Gly Lys
　　　　　　2645　　　　　　　2650　　　　　　　2655

Trp Leu Val Leu Phe Cys Asp Glu Ile Asn Leu Pro Asp Met Asp Lys
　　　　　　2660　　　　　　　2665　　　　　　　2670

Tyr Gly Thr Gln Arg Val Ile Ser Phe Ile Arg Gln Met Val Glu His
　　　2675　　　　　　　2680　　　　　　　2685

Gly Gly Phe Tyr Arg Thr Ser Asp Gln Thr Trp Val Lys Leu Glu Arg
　　　2690　　　　　　　2695　　　　　　　2700

Ile Gln Phe Val Gly Ala Cys Asn Pro Pro Thr Asp Pro Gly Arg Lys
2705　　　　　　　2710　　　　　　　2715　　　　　　　　2720

Pro Leu Ser His Arg Phe Leu Arg His Val Pro Val Val Tyr Val Asp
　　　　　　2725　　　　　　　2730　　　　　　　2735

Tyr Pro Gly Pro Ala Ser Leu Thr Gln Ile Tyr Gly Thr Phe Asn Arg
　　　2740　　　　　　　2745　　　　　　　2750

Ala Met Leu Arg Leu Ile Pro Ser Leu Arg Thr Tyr Ala Glu Pro Leu
　　　2755　　　　　　　2760　　　　　　　2765

Thr Ala Ala Met Val Glu Phe Tyr Thr Met Ser Gln Glu Arg Phe Thr
　　　2770　　　　　　　2775　　　　　　　2780

Gln Asp Thr Gln Pro His Tyr Ile Tyr Ser Pro Arg Glu Met Thr Arg
2785　　　　　　　2790　　　　　　　2795　　　　　　　　2800

Trp Val Arg Gly Ile Phe Glu Ala Leu Arg Pro Leu Glu Thr Leu Pro
　　　　　　2805　　　　　　　2810　　　　　　　2815

Val Glu Gly Leu Ile Arg Ile Trp Ala His Glu Ala Leu Arg Leu Phe
　　　2820　　　　　　　2825　　　　　　　2830

Gln Asp Arg Leu Val Glu Asp Glu Glu Arg Arg Trp Thr Asp Glu Asn
　　　2835　　　　　　　2840　　　　　　　2845

Ile Asp Thr Val Ala Leu Lys His Phe Pro Asn Ile Asp Arg Glu Lys
　　　2850　　　　　　　2855　　　　　　　2860

Ala Met Ser Arg Pro Ile Leu Tyr Ser Asn Trp Leu Ser Lys Asp Tyr

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2865                    2870                    2875                    2880
Ile Pro Val Asp Gln Glu Glu Leu Arg Asp Tyr Val Lys Ala Arg Leu
                 2885                    2890                    2895
Lys Val Phe Tyr Glu Glu Glu Leu Asp Val Pro Leu Val Leu Phe Asn
                 2900                    2905                    2910
Glu Val Leu Asp His Val Leu Arg Ile Asp Arg Ile Phe Arg Gln Pro
                 2915                    2920                    2925
Gln Gly His Leu Leu Leu Ile Gly Val Ser Gly Ala Gly Lys Thr Thr
                 2930                    2935                    2940
Leu Ser Arg Phe Val Ala Trp Met Asn Gly Leu Ser Val Tyr Gln Ile
2945                    2950                    2955                    2960
Lys Val His Arg Lys Tyr Thr Gly Glu Asp Phe Asp Glu Asp Leu Arg
                 2965                    2970                    2975
Thr Val Leu Arg Arg Ser Gly Cys Lys Asn Glu Lys Ile Ala Phe Ile
                 2980                    2985                    2990
Met Asp Glu Ser Asn Val Leu Asp Ser Gly Phe Leu Glu Arg Met Asn
                 2995                    3000                    3005
Thr Leu Leu Ala Asn Gly Glu Val Pro Gly Leu Phe Glu Gly Asp Glu
                 3010                    3015                    3020
Tyr Ala Thr Leu Met Thr Gln Cys Lys Glu Gly Ala Gln Lys Glu Gly
3025                    3030                    3035                    3040
Leu Met Leu Asp Ser His Glu Glu Leu Tyr Lys Trp Phe Thr Ser Gln
                 3045                    3050                    3055
Val Ile Arg Asn Leu His Val Val Phe Thr Met Asn Pro Ser Ser Glu
                 3060                    3065                    3070
Gly Leu Lys Asp Arg Ala Ala Thr Ser Pro Ala Leu Phe Asn Arg Cys
                 3075                    3080                    3085
Val Leu Asn Trp Phe Gly Asp Trp Ser Thr Glu Ala Leu Tyr Gln Val
                 3090                    3095                    3100
Gly Lys Glu Phe Thr Ser Lys Met Asp Leu Glu Lys Pro Asn Tyr Ile
3105                    3110                    3115                    3120
Val Pro Asp Tyr Met Pro Val Val Tyr Asp Lys Leu Pro Gln Pro Pro
                 3125                    3130                    3135
Ser His Arg Glu Ala Ile Val Asn Ser Cys Val Phe Val His Gln Thr
                 3140                    3145                    3150
Leu His Gln Ala Asn Ala Arg Leu Ala Lys Arg Gly Gly Arg Thr Met
                 3155                    3160                    3165
Ala Ile Thr Pro Arg His Tyr Leu Asp Phe Ile Asn His Tyr Ala Asn
                 3170                    3175                    3180
Leu Phe His Glu Lys Arg Ser Glu Leu Glu Glu Gln Gln Met His Leu
3185                    3190                    3195                    3200
Asn Val Gly Leu Arg Lys Ile Lys Glu Thr Val Asp Gln Val Glu Glu
                 3205                    3210                    3215
Leu Arg Arg Asp Leu Arg Ile Lys Ser Gln Glu Leu Glu Val Lys Asn
                 3220                    3225                    3230
Ala Ala Ala Asn Asp Lys Leu Lys Lys Met Val Lys Asp Gln Gln Glu
                 3235                    3240                    3245
Ala Glu Lys Lys Lys Val Met Ser Gln Glu Ile Gln Glu Gln Leu His
                 3250                    3255                    3260
Lys Gln Gln Glu Val Ile Ala Asp Lys Gln Met Ser Val Lys Glu Asp
3265                    3270                    3275                    3280
Leu Asp Lys Val Glu Pro Ala Val Ile Glu Ala Gln Asn Ala Val Lys
                 3285                    3290                    3295
Ser Ile Lys Lys Gln His Leu Val Glu Val Arg Ser Met Ala Asn Pro
                 3300                    3305                    3310
Pro Ala Ala Val Lys Leu Ala Leu Glu Ser Ile Cys Leu Leu Leu Gly
                 3315                    3320                    3325
Glu Ser Thr Thr Asp Trp Lys Gln Ile Arg Ser Ile Ile Met Arg Glu
                 3330                    3335                    3340
Asn Phe Ile Pro Thr Ile Val Asn Phe Ser Ala Glu Glu Ile Ser Asp
3345                    3350                    3355                    3360
Ala Ile Arg Glu Lys Met Lys Lys Asn Tyr Met Ser Asn Pro Ser Tyr
                 3365                    3370                    3375
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Asn Tyr Glu Ile Val Asn Arg Ala Ser Leu Ala Cys Gly Pro Met Val
                3380   3385   3390
Lys Trp Ala Ile Ala Gln Leu Asn Tyr Ala Asp Met Leu Lys Arg Val
                3395   3400   3405
Glu Pro Leu Arg Asn Glu Leu Gln Lys Leu Glu Asp Asp Ala Lys Asp
            3410   3415   3420
Asn Gln Gln Lys Ala Asn Glu Val Glu Gln Met Ile Arg Asp Leu Glu
3425   3430   3435   3440
Ala Ser Ile Ala Arg Tyr Lys Glu Glu Tyr Ala Val Leu Ile Ser Glu
                3445   3450   3455
Ala Gln Ala Ile Lys Ala Asp Leu Ala Ala Val Glu Ala Lys Val Asn
                3460   3465   3470
Arg Ser Thr Ala Leu Leu Lys Ser Leu Ser Ala Glu Arg Glu Arg Trp
            3475   3480   3485
Glu Lys Thr Ser Glu Thr Phe Lys Asn Gln Met Ser Thr Ile Ala Gly
            3490   3495   3500
Asp Cys Leu Leu Ser Ala Phe Ile Ala Tyr Ala Gly Tyr Phe Asp
3505   3510   3515   3520
Gln Gln Met Arg Gln Asn Leu Phe Thr Thr Trp Ser His His Leu Gln
                3525   3530   3535
Gln Ala Asn Ile Gln Phe Arg Thr Asp Ile Ala Arg Thr Glu Tyr Leu
                3540   3545   3550
Ser Asn Ala Asp Glu Arg Leu Arg Trp Gln Ala Ser Ser Leu Pro Ala
            3555   3560   3565
Asp Asp Leu Cys Thr Glu Asn Ala Ile Met Leu Lys Arg Phe Asn Arg
            3570   3575   3580
Tyr Pro Leu Ile Ile Asp Pro Ser Gly Gln Ala Thr Glu Phe Ile Met
3585   3590   3595   3600
Asn Glu Tyr Lys Asp Arg Lys Ile Thr Arg Thr Ser Phe Leu Asp Asp
                3605   3610   3615
Ala Phe Arg Lys Asn Leu Glu Ser Ala Leu Arg Phe Gly Asn Pro Leu
            3620   3625   3630
Leu Val Gln Asp Val Glu Ser Tyr Asp Pro Val Leu Asn Pro Val Leu
            3635   3640   3645
Asn Arg Glu Val Arg Arg Thr Gly Gly Arg Val Leu Ile Thr Leu Gly
            3650   3655   3660
Asp Gln Asp Ile Asp Leu Ser Pro Ser Phe Val Ile Phe Leu Ser Thr
3665   3670   3675   3680
Arg Asp Pro Thr Val Glu Phe Pro Pro Asp Leu Cys Ser Arg Val Thr
            3685   3690   3695
Phe Val Asn Phe Thr Val Thr Arg Ser Ser Leu Gln Ser Gln Cys Leu
            3700   3705   3710
Asn Glu Val Leu Lys Ala Glu Arg Pro Asp Val Asp Glu Lys Arg Ser
            3715   3720   3725
Asp Leu Leu Lys Leu Gln Gly Glu Phe Gln Leu Arg Leu Arg Gln Leu
            3730   3735   3740
Glu Lys Ser Leu Leu Gln Ala Leu Asn Glu Val Lys Gly Arg Ile Leu
3745   3750   3755   3760
Asp Asp Asp Thr Ile Ile Thr Thr Leu Glu Asn Leu Lys Arg Glu Ala
                3765   3770   3775
Ala Glu Val Thr Arg Lys Val Glu Glu Thr Asp Ile Val Met Gln Glu
                3780   3785   3790
Val Glu Thr Val Ser Gln Gln Tyr Leu Pro Leu Ser Thr Ala Cys Ser
            3795   3800   3805
Ser Ile Tyr Phe Thr Met Glu Ser Leu Lys Gln Ile His Phe Leu Tyr
            3810   3815   3820
Gln Tyr Ser Leu Gln Phe Phe Leu Asp Ile Tyr His Asn Val Leu Tyr
3825   3830   3835   3840
Glu Asn Pro Asn Leu Lys Gly Val Thr Asp His Thr Gln Arg Leu Ser
                3845   3850   3855
Ile Ile Thr Lys Asp Leu Phe Gln Val Ala Phe Asn Arg Val Ala Arg
                3860   3865   3870
Gly Met Leu His Gln Asp His Ile Thr Phe Ala Met Leu Leu Ala Arg

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           3875                  3880                  3885
Ile Lys Leu Lys Gly Thr Val Gly Glu Pro Thr Tyr Asp Ala Glu Phe
     3890                  3895                  3900
Gln His Phe Leu Arg Gly Asn Glu Ile Val Leu Ser Ala Gly Ser Thr
3905                  3910                  3915                  3920
Pro Arg Ile Gln Gly Leu Thr Val Glu Gln Ala Glu Ala Val Val Arg
                3925                  3930                  3935
Leu Ser Cys Leu Pro Ala Phe Lys Asp Leu Ile Ala Lys Val Gln Ala
           3940                  3945                  3950
Asp Glu Gln Phe Gly Ile Trp Leu Asp Ser Ser Ser Pro Glu Gln Thr
           3955                  3960                  3965
Val Pro Tyr Leu Trp Ser Glu Glu Thr Pro Ala Thr Pro Ile Gly Gln
     3970                  3975                  3980
Ala Ile His Arg Leu Leu Leu Ile Gln Ala Phe Arg Pro Asp Arg Leu
3985                  3990                  3995                  4000
Leu Ala Met Ala His Met Phe Val Ser Thr Asn Leu Gly Glu Ser Phe
                4005                  4010                  4015
Met Ser Ile Met Glu Gln Pro Leu Asp Leu Thr His Ile Val Gly Thr
           4020                  4025                  4030
Glu Val Lys Pro Asn Thr Pro Val Leu Met Cys Ser Val Pro Gly Tyr
           4035                  4040                  4045
Asp Ala Ser Gly His Val Glu Asp Leu Ala Ala Glu Gln Asn Thr Gln
     4050                  4055                  4060
Ile Thr Ser Ile Ala Ile Gly Ser Ala Glu Gly Phe Asn Gln Ala Asp
4065                  4070                  4075                  4080
Lys Ala Ile Asn Thr Ala Val Lys Ser Gly Arg Trp Val Met Leu Lys
                4085                  4090                  4095
Asn Val His Leu Ala Pro Gly Trp Leu Met Gln Leu Glu Lys Lys Leu
           4100                  4105                  4110
His Ser Leu Gln Pro His Ala Cys Phe Arg Leu Phe Leu Thr Met Glu
           4115                  4120                  4125
Ile Asn Pro Lys Val Pro Val Asn Leu Leu Arg Ala Gly Arg Ile Phe
     4130                  4135                  4140
Val Phe Glu Pro Pro Pro Gly Val Lys Ala Asn Met Leu Arg Thr Phe
4145                  4150                  4155                  4160
Ser Ser Ile Pro Val Ser Arg Ile Cys Lys Ser Pro Asn Glu Arg Ala
                4165                  4170                  4175
Arg Leu Tyr Phe Leu Leu Ala Trp Phe His Ala Ile Ile Gln Glu Arg
           4180                  4185                  4190
Leu Arg Tyr Ala Pro Leu Gly Trp Ser Lys Lys Tyr Glu Phe Gly Glu
     4195                  4200                  4205
Ser Asp Leu Arg Ser Ala Cys Asp Thr Val Asp Thr Trp Leu Asp Asp
4210                  4215                  4220
Thr Ala Lys Ala Ser Gly Arg Gln Asn Ile Ser Pro Asp Lys Ile Pro
4225                  4230                  4235                  4240
Trp Ser Ala Leu Lys Thr Leu Met Ala Gln Ser Ile Tyr Gly Gly Arg
                4245                  4250                  4255
Val Asp Asn Glu Phe Asp Gln Arg Leu Leu Asn Thr Phe Leu Glu Arg
           4260                  4265                  4270
Leu Phe Thr Thr Arg Ser Phe Asp Ser Glu Phe Lys Leu Ala Cys Lys
     4275                  4280                  4285
Val Asp Gly His Lys Asp Ile Gln Met Pro Asp Gly Ile Arg Arg Glu
     4290                  4295                  4300
Glu Phe Val Gln Trp Val Glu Leu Leu Pro Asp Thr Gln Thr Pro Ser
4305                  4310                  4315                  4320
Trp Leu Gly Leu Pro Asn Asn Ala Glu Arg Val Leu Leu Thr Thr Gln
                4325                  4330                  4335
Gly Val Asp Met Ile Ser Lys Met Leu Lys Met Gln Met Leu Glu Asp
           4340                  4345                  4350
Glu Asp Asp Leu Ala Tyr Ala Glu Thr Glu Lys Lys Thr Arg Thr Asp
     4355                  4360                  4365
Ser Thr Ser Asp Gly Arg Pro Ala Trp Met Arg Thr Leu His Thr Thr
     4370                  4375                  4380
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Ala Ser Asn Trp Leu His Leu Ile Pro Gln Thr Leu Ser His Leu Lys
4385   4390   4395   4400
Arg Thr Val Glu Asn Ile Lys Asp Pro Leu Phe Arg Phe Phe Glu Arg
            4405   4410   4415
Glu Val Lys Met Gly Ala Lys Leu Leu Gln Asp Val Arg Gln Asp Leu
            4420   4425   4430
Ala Asp Val Val Gln Val Cys Glu Gly Lys Lys Lys Gln Thr Asn Tyr
            4435   4440   4445
Leu Arg Thr Leu Ile Asn Glu Leu Val Lys Gly Ile Leu Pro Arg Ser
            4450   4455   4460
Trp Ser His Tyr Thr Val Pro Ala Gly Met Thr Val Ile Gln Trp Val
4465   4470   4475   4480
Ser Asp Phe Ser Glu Arg Ile Lys Gln Leu Gln Asn Ile Ser Leu Ala
            4485   4490   4495
Ala Ala Ser Gly Gly Ala Lys Glu Leu Lys Asn Ile His Val Cys Leu
            4500   4505   4510
Gly Gly Leu Phe Val Pro Glu Ala Tyr Ile Thr Ala Thr Arg Gln Tyr
            4515   4520   4525
Val Ala Gln Ala Asn Ser Trp Ser Leu Glu Glu Leu Cys Leu Glu Val
            4530   4535   4540
Asn Val Thr Thr Ser Gln Gly Ala Thr Leu Asp Ala Cys Ser Phe Gly
4545   4550   4555   4560
Val Thr Gly Leu Lys Leu Gln Gly Ala Thr Cys Asn Asn Asn Lys Leu
            4565   4570   4575
Ser Leu Ser Asn Ala Ile Ser Thr Ala Leu Pro Leu Thr Gln Leu Arg
            4580   4585   4590
Trp Val Lys Gln Thr Asn Thr Glu Lys Lys Ala Ser Val Val Thr Leu
            4595   4600   4605
Pro Val Tyr Leu Asn Phe Thr Arg Ala Asp Leu Ile Phe Thr Val Asp
            4610   4615   4620
Phe Glu Ile Ala Thr Lys Glu Asp Pro Arg Ser Phe Tyr Glu Arg Gly
4625   4630   4635   4640
Val Ala Val Leu Cys Thr Glu
            4645

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Met Ala Asn Gly Val Ile Pro Pro Pro Gly Gly Ala Ser Pro Leu Pro
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Gln Val Arg Val Pro Leu Glu Glu Pro Pro Leu Ser Pro Asp Val Glu
            20   25   30
Glu Glu Asp Asp Asp Leu Gly Lys Thr Leu Ala Val Ser Arg Phe Gly
            35   40   45
Asp Leu Ile Ser Lys Pro Pro Ala Trp Asp Pro Glu Lys Pro Ser Arg
            50   55   60
Ser Tyr Ser Glu Arg Asp Phe Glu Phe His Arg His Thr Ser His His
65   70   75   80
Thr His His Pro Leu Ser Ala Arg Leu Pro Pro Pro His Lys Leu Arg
            85   90   95
Arg Leu Pro Pro Thr Ser Ala Arg His Thr Arg Arg Lys Arg Lys Lys
            100   105   110
Glu Lys Thr Ser Ala Pro Pro Ser Glu Gly Thr Pro Pro Ile Gln Glu
            115   120   125
Glu Gly Gly Ala Gly Val Asp Glu Glu Glu Glu Glu Glu Glu Glu Glu
            130   135   140
Glu Gly Glu Ser Glu Ala Glu Pro Val Glu Pro Pro His Ser Gly Thr
145   150   155   160
Pro Gln Lys Ala Lys Phe Ser Ile Gly Ser Asp Glu Asp Asp Ser Pro
            165   170   175

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Gly Leu Pro Gly Arg Ala Ala Val Thr Lys Pro Leu Pro Ser Val Gly
            180                 185             190
Pro His Thr Asp Lys Ser Pro Gln His Ser Ser Ser Ser Pro Ser Pro
        195             200             205
Arg Ala Arg Ala Ser Arg Leu Ala Gly Glu Lys Ser Arg Pro Trp Ser
    210             215             220
Pro Ser Ala Ser Tyr Asp Leu Arg Glu Arg Leu Cys Pro Gly Ser Ala
225             230             235             240
Leu Gly Asn Pro Gly Gly Pro Glu Gln Gln Val Pro Thr Asp Glu Ala
            245             250             255
Glu Ala Gln Met Leu Gly Ser Ala Asp Leu Asp Asp Met Lys Ser His
            260             265             270
Arg Leu Glu Asp Asn Pro Gly Val Arg Arg His Leu Val Lys Lys Pro
    275             280             285
Ser Arg Thr Gln Gly Gly Arg Gly Ser Pro Ser Gly Leu Ala Pro Ile
    290             295             300
Leu Arg Arg Lys Lys Lys Lys Lys Leu Asp Arg Arg Pro His Glu
305             310             315             320
Val Phe Val Glu Leu Asn Glu Leu Met Leu Asp Arg Ser Gln Glu Pro
            325             330             335
His Trp Arg Glu Thr Ala Arg Trp Ile Lys Phe Glu Glu Asp Val Glu
            340             345             350
Glu Glu Thr Glu Arg Trp Gly Lys Pro His Val Ala Ser Leu Ser Phe
            355             360             365
Arg Ser Leu Leu Glu Leu Arg Arg Thr Ile Ala His Gly Ala Ala Leu
    370             375             380
Leu Asp Leu Glu Gln Thr Thr Leu Pro Gly Ile Ala His Leu Val Val
385             390             395             400
Glu Thr Met Ile Val Ser Asp Gln Ile Arg Pro Glu Asp Arg Ala Ser
            405             410             415
Val Leu Arg Thr Leu Leu Leu Lys His Ser His Pro Asn Asp Asp Lys
            420             425             430
Asp Ser Gly Phe Phe Pro Arg Asn Pro Ser Ser Ser Ser Met Asn Ser
    435             440             445
Val Leu Gly Asn His His Pro Thr Pro Ser His Gly Pro Asp Gly Ala
    450             455             460
Val Pro Thr Met Ala Asp Leu Gly Glu Pro Ala Pro Leu Trp Pro
465             470             475             480
His Asp Pro Asp Ala Lys Glu Lys Pro Leu His Met Pro Gly Gly Asp
            485             490             495
Gly His Arg Gly Lys Ser Leu Lys Leu Leu Glu Lys Ile Pro Glu Asp
            500             505             510
Ala Glu Ala Thr Val Val Leu Val Gly Cys Val Pro Phe Leu Glu Gln
    515             520             525
Pro Ala Ala Ala Phe Val Arg Leu Asn Glu Ala Val Leu Leu Glu Ser
    530             535             540
Val Leu Glu Val Pro Val Pro Val Arg Phe Leu Phe Val Met Leu Gly
545             550             555             560
Pro Ser His Thr Ser Thr Asp Tyr His Glu Leu Gly Arg Ser Ile Ala
            565             570             575
Thr Leu Met Ser Asp Lys Leu Phe His Glu Ala Ala Tyr Gln Ala Asp
            580             585             590
Asp Arg Gln Asp Leu Leu Ser Ala Ile Ser Glu Phe Leu Asp Gly Ser
    595             600             605
Ile Val Ile Pro Pro Ser Glu Val Glu Gly Arg Asp Leu Leu Arg Ser
    610             615             620
Val Ala Ala Phe Gln Arg Glu Leu Leu Arg Lys Arg Arg Glu Arg Glu
625             630             635             640
Gln Thr Lys Val Glu Met Thr Thr Arg Gly Gly Tyr Thr Ala Pro Gly
            645             650             655
Lys Glu Leu Ser Leu Glu Leu Gly Gly Ser Glu Ala Thr Pro Glu Asp
            660             665             670
Asp Pro Leu Leu Arg Thr Gly Ser Val Phe Gly Gly Leu Val Arg Asp
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               675                    680                    685
Val Arg Arg Arg Tyr Pro His Tyr Pro Ser Asp Leu Arg Asp Ala Leu
       690                    695                    700
His Ser Gln Cys Val Ala Ala Val Leu Phe Ile Tyr Phe Ala Ala Leu
705                    710                    715                    720
Ser Pro Ala Ile Thr Phe Gly Gly Leu Leu Gly Glu Lys Thr Glu Gly
                   725                    730                    735
Leu Met Gly Val Ser Glu Leu Ile Val Ser Thr Ala Val Leu Gly Val
                   740                    745                    750
Leu Phe Ser Leu Leu Gly Ala Gln Pro Leu Leu Val Val Gly Phe Ser
               755                    760                    765
Gly Pro Leu Leu Val Phe Glu Glu Ala Phe Phe Lys Phe Cys Arg Ala
       770                    775                    780
Gln Asp Leu Glu Tyr Leu Thr Gly Arg Val Trp Val Gly Leu Trp Leu
785                    790                    795                    800
Val Val Phe Val Leu Ala Leu Val Ala Ala Glu Gly Ser Phe Leu Val
                   805                    810                    815
Arg Tyr Ile Ser Pro Phe Thr Gln Glu Ile Phe Ala Phe Leu Ile Ser
               820                    825                    830
Leu Ile Phe Ile Tyr Glu Thr Phe Tyr Lys Leu Tyr Lys Val Phe Thr
               835                    840                    845
Glu His Pro Leu Leu Pro Phe Tyr Pro Pro Glu Gly Ala Leu Glu Gly
       850                    855                    860
Ser Leu Asp Ala Gly Leu Glu Pro Asn Gly Ser Ala Leu Pro Pro Thr
865                    870                    875                    880
Glu Gly Pro Pro Ser Pro Arg Asn Gln Pro Asn Thr Ala Leu Leu Ser
                   885                    890                    895
Leu Ile Leu Met Leu Gly Thr Phe Phe Ile Ala Phe Phe Leu Arg Lys
               900                    905                    910
Phe Arg Asn Ser Arg Phe Leu Gly Gly Lys Ala Arg Arg Ile Ile Gly
       915                    920                    925
Asp Phe Gly Ile Pro Ile Ser Ile Leu Val Met Val Leu Val Asp Tyr
       930                    935                    940
Ser Ile Thr Asp Thr Tyr Thr Gln Lys Leu Thr Val Pro Thr Gly Leu
945                    950                    955                    960
Ser Val Thr Ser Pro Asp Lys Arg Ser Trp Phe Ile Pro Pro Leu Gly
                   965                    970                    975
Ser Ala Arg Pro Phe Pro Pro Trp Met Met Val Ala Ala Ala Val Pro
               980                    985                    990
Ala Leu Leu Val Leu Ile Leu Ile Phe Met Glu Thr Gln Ile Thr Ala
           995                    1000                   1005
Leu Ile Val Ser Gln Lys Ala Arg Arg Leu Leu Lys Gly Ser Gly Phe
       1010                   1015                   1020
His Leu Asp Leu Leu Leu Ile Gly Ser Leu Gly Gly Leu Cys Gly Leu
1025                   1030                   1035                   1040
Phe Gly Leu Pro Trp Leu Thr Ala Ala Thr Val Arg Ser Val Thr His
                   1045                   1050                   1055
Val Asn Ala Leu Thr Val Met Arg Thr Ala Ile Ala Pro Gly Asp Lys
               1060                   1065                   1070
Pro Gln Ile Gln Glu Val Arg Glu Gln Arg Val Thr Gly Val Leu Ile
               1075                   1080                   1085
Ala Ser Leu Val Gly Leu Ser Ile Val Met Gly Ala Val Leu Arg Arg
       1090                   1095                   1100
Ile Pro Leu Ala Val Leu Phe Gly Ile Phe Leu Tyr Met Gly Val Thr
1105                   1110                   1115                   1120
Ser Leu Ser Gly Ile Gln Leu Ser Gln Arg Leu Leu Leu Ile Leu Met
                   1125                   1130                   1135
Pro Ala Lys His His Pro Glu Gln Pro Tyr Val Thr Lys Val Lys Thr
               1140                   1145                   1150
Trp Arg Met His Leu Phe Thr Cys Ile Gln Leu Gly Cys Ile Ala Leu
               1155                   1160                   1165
Leu Trp Val Val Lys Ser Thr Ala Ala Ser Leu Ala Phe Pro Phe Leu
       1170                   1175                   1180
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Leu Leu Leu Thr Val Pro Leu Arg His Cys Leu Leu Pro Arg Leu Phe
1185   1190   1195   1200
Gln Asp Arg Glu Leu Gln Ala Leu Asp Ser Glu Asp Ala Glu Pro Asn
              1205   1210   1215
Phe Asp Glu Asp Gly Gln Asp Glu Tyr Asn Glu Leu His Met Pro Val
              1220   1225   1230

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Asp Trp Asn Val Thr Trp Asn Thr Ser Asn Pro Asp Phe Thr Lys Cys
1   5   10   15
Phe Gln Asn Thr Val Leu Val Trp Val Pro Cys Phe Tyr Leu Trp Ala
              20   25   30
Cys Phe Pro Phe Tyr Phe Leu Tyr Leu Ser Arg His Asp Arg Gly Tyr
              35   40   45
Ile Gln Met Thr Pro Leu Asn Lys Thr Lys Thr Ala Leu Gly Phe Leu
              50   55   60
Leu Trp Ile Val Cys Trp Ala Asp Leu Phe Tyr Ser Phe Trp Glu Arg
65   70   75   80
Ser Arg Gly Ile Phe Leu Ala Pro Val Phe Leu Val Ser Pro Thr Leu
              85   90   95
Leu Gly Ile Thr Met Leu Leu Ala Thr Phe Leu Ile Gln Leu Glu Arg
              100   105   110
Arg Lys Gly Val Gln Ser Ser Gly Ile Met Leu Thr Phe Trp Leu Val
              115   120   125
Ala Leu Val Cys Ala Leu Ala Ile Leu Arg Ser Lys Ile Met Thr Ala
              130   135   140
Leu Lys Glu Asp Ala Gln Val Asp Leu Phe Arg Asp Ile Thr Phe Tyr
145   150   155   160
Val Tyr Phe Ser Leu Leu Leu Ile Gln Leu Val Leu Ser Cys Phe Ser
              165   170   175
Asp Arg Ser Pro Leu Phe Ser Glu Thr Ile His Asp Pro Asn Pro Cys
              180   185   190
Pro Glu Ser Ser Ala Ser Phe Leu Ser Arg Ile Thr Phe Trp Trp Ile
              195   200   205
Thr Gly Leu Ile Val Arg Gly Tyr Arg Gln Pro Leu Glu Gly Ser Asp
              210   215   220
Leu Trp Ser Leu Asn Lys Glu Asp Thr Ser Glu Gln Val Val Pro Val
225   230   235   240
Leu Val Lys Asn Trp Lys Lys Glu Cys Ala Lys Thr Arg Lys Gln Pro
              245   250   255
Val Lys Val Val Tyr Ser Ser Lys Asp Pro Ala Gln Pro Lys Glu Ser
              260   265   270
Ser Lys Val Asp Ala Asn Glu Glu Val Glu Ala Leu Ile Val Lys Ser
              275   280   285
Pro Gln Lys Glu Trp Asn Pro Ser Leu Phe Lys Val Leu Tyr Lys Thr
              290   295   300
Phe Gly Pro Tyr Phe Leu Met Ser Phe Phe Phe Lys Ala Ile His Asp
305   310   315   320
Leu Met Met Phe Ser Gly Pro Gln Ile Leu Lys Leu Leu Ile Lys Phe
              325   330   335
Val Asn Asp Thr Lys Ala Pro Asp Trp Gln Gly Tyr Phe Tyr Thr Val
              340   345   350
Leu Leu Phe Val Thr Ala Cys Leu Gln Thr Leu Val Leu His Gln Tyr
              355   360   365
Phe His Ile Cys Phe Val Ser Gly Met Arg Ile Lys Thr Ala Val Ile
              370   375   380
Gly Ala Val Tyr Arg Lys Ala Leu Val Ile Thr Asn Ser Ala Arg Lys
385   390   395   400

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Ser Ser Thr Val Gly Glu Ile Val Asn Leu Met Ser Val Asp Ala Gln
            405   410   415
Arg Phe Met Asp Leu Ala Thr Tyr Ile Asn Met Ile Trp Ser Ala Pro
            420   425   430
Leu Gln Val Ile Leu Ala Leu Tyr Leu Leu Trp Leu Asn Leu Gly Pro
            435   440   445
Ser Val Leu Ala Gly Val Ala Val Met Val Leu Met Val Pro Val Asn
    450   455   460
Ala Val Met Ala Met Lys Thr Lys Thr Tyr Gln Val Ala His Met Lys
465   470   475   480
Ser Lys Asp Asn Arg Ile Lys Leu Met Asn Glu Ile Leu Asn Gly Ile
                485   490   495
Lys Val Leu Lys Leu Tyr Ala Trp Glu Leu Ala Phe Lys Asp Lys Val
            500   505   510
Leu Ala Ile Arg Gln Glu Glu Leu Lys Val Leu Lys Lys Ser Ala Tyr
        515   520   525
Leu Ser Ala Val Gly Thr Phe Thr Trp Val Cys Thr Pro Phe Leu Val
    530   535   540
Ala Leu Cys Thr Phe Ala Val Tyr Val Thr Ile Asp Glu Asn Asn Ile
545   550   555   560
Leu Asp Ala Gln Thr Ala Phe Val Ser Leu Ala Leu Phe Asn Ile Leu
                565   570   575
Arg Phe Pro Leu Asn Ile Leu Pro Met Val Ile Ser Ser Ile Val Gln
            580   585   590
Ala Ser Val Ser Leu Lys Arg Leu Arg Ile Phe Leu Ser His Glu Glu
            595   600   605
Leu Glu Pro Asp Ser Ile Glu Arg Arg Pro Val Lys Asp Gly Gly Gly
    610   615   620
Thr Asn Ser Ile Thr Val Arg Asn Ala Thr Phe Thr Trp Ala Arg Ser
625   630   635   640
Asp Pro Pro Thr Leu Asn Gly Ile Thr Phe Ser Ile Pro Glu Gly Ala
            645   650   655
Leu Val Ala Val Val Gly Gln Val Gly Cys Gly Lys Ser Ser Leu Leu
            660   665   670
Ser Ala Leu Leu Ala Glu Met Asp Lys Val Glu Gly His Val Ala Ile
    675   680   685
Lys Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Asp
    690   695   700
Ser Leu Arg Glu Asn Ile Leu Phe Gly Cys Gln Leu Glu Glu Pro Tyr
705   710   715   720
Tyr Arg Ser Val Ile Gln Ala Cys Ala Leu Leu Pro Asp Leu Glu Ile
            725   730   735
Leu Pro Ser Gly Asp Arg Thr Glu Ile Gly Glu Lys Gly Val Asn Leu
            740   745   750
Ser Gly Gly Gln Lys Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser
    755   760   765
Asn Ala Asp Ile Tyr Leu Phe Asp Asp Pro Leu Ser Ala Val Asp Ala
    770   775   780
His Val Gly Lys His Ile Phe Glu Asn Val Ile Gly Pro Lys Gly Met
785   790   795   800
Leu Lys Asn Lys Thr Arg Ile Leu Val Thr His Ser Met Ser Tyr Leu
            805   810   815
Pro Gln Val Asp Val Ile Ile Val Met Ser Gly Gly Lys Ile Ser Glu
            820   825   830
Met Gly Ser Tyr Gln Glu Leu Leu Ala Arg Asp Gly Ala Phe Ala Glu
            835   840   845
Phe Leu Arg Thr Tyr Ala Ser Thr Glu Gln Glu Gln Asp Ala Glu Glu
    850   855   860
Asn Gly Val Thr Gly Val Ser Gly Pro Gly Lys Glu Ala Lys Gln Met
865   870   875   880
Glu Asn Gly Met Leu Val Thr Asp Ser Ala Gly Lys Gln Leu Gln Arg
            885   890   895
Gln Leu Ser Ser Ser Ser Ser Tyr Ser Gly Asp Ile Ser Arg His His

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                   900                     905                     910
Asn Ser Thr Ala Glu Leu Gln Lys Ala Glu Ala Lys Lys Glu Glu Thr
               915                     920                     925
Trp Lys Leu Met Glu Ala Asp Lys Ala Gln Thr Gly Gln Val Lys Leu
           930                     935                     940
Ser Val Tyr Trp Asp Tyr Met Lys Ala Ile Gly Leu Phe Ile Ser Phe
945                     950                     955                     960
Leu Ser Ile Phe Leu Phe Met Cys Asn His Val Ser Ala Leu Ala Ser
                   965                     970                     975
Asn Tyr Trp Leu Ser Leu Trp Thr Asp Asp Pro Ile Val Asn Gly Thr
               980                     985                     990
Gln Glu His Thr Lys Val Arg Leu Ser Val Tyr Gly Ala Leu Gly Ile
           995                     1000                    1005
Ser Gln Gly Ile Ala Val Phe Gly Tyr Ser Met Ala Val Ser Ile Gly
       1010                    1015                    1020
Gly Ile Leu Ala Ser Arg Cys Leu His Val Asp Leu Leu His Ser Ile
1025                    1030                    1035                    1040
Leu Arg Ser Pro Met Ser Phe Phe Glu Arg Thr Pro Ser Gly Asn Leu
                   1045                    1050                    1055
Val Asn Arg Phe Ser Lys Glu Leu Asp Thr Val Asp Ser Met Ile Pro
               1060                    1065                    1070
Glu Val Ile Lys Met Phe Met Gly Ser Leu Phe Asn Val Ile Gly Ala
           1075                    1080                    1085
Cys Ile Val Ile Leu Leu Ala Thr Pro Ile Ala Ala Ile Ile Ile Pro
       1090                    1095                    1100
Pro Leu Gly Leu Ile Tyr Phe Phe Val Gln Arg Phe Tyr Val Ala Ser
1105                    1110                    1115                    1120
Ser Arg Gln Leu Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Val Tyr
               1125                    1130                    1135
Ser His Phe Asn Glu Thr Leu Leu Gly Val Ser Val Ile Arg Ala Phe
           1140                    1145                    1150
Glu Glu Gln Glu Arg Phe Ile His Gln Ser Asp Leu Lys Val Asp Glu
               1155                    1160                    1165
Asn Gln Lys Ala Tyr Tyr Pro Ser Ile Val Ala Asn Arg Trp Leu Ala
           1170                    1175                    1180
Val Arg Leu Glu Cys Val Gly Asn Cys Ile Val Leu Phe Ala Ala Leu
1185                    1190                    1195                    1200
Phe Ala Val Ile Ser Arg His Ser Leu Ser Ala Gly Leu Val Gly Leu
               1205                    1210                    1215
Ser Val Ser Tyr Ser Leu Gln Val Thr Thr Tyr Leu Asn Trp Leu Val
               1220                    1225                    1230
Arg Met Ser Ser Glu Met Glu Thr Asn Ile Val Ala Val Glu Arg Leu
           1235                    1240                    1245
Lys Glu Tyr Ser Glu Thr Glu Lys Glu Ala Pro Trp Gln Ile Gln Glu
       1250                    1255                    1260
Thr Ala Pro Pro Ser Ser Trp Pro Gln Val Gly Arg Val Glu Phe Arg
1265                    1270                    1275                    1280
Asn Tyr Cys Leu Arg Tyr Arg Glu Asp Leu Asp Phe Val Leu Arg His
               1285                    1290                    1295
Ile Asn Val Thr Ile Asn Gly Gly Glu Lys Val Gly Ile Val Gly Arg
           1300                    1305                    1310
Thr Gly Ala Gly Lys Ser Ser Leu Thr Leu Gly Leu Phe Arg Ile Asn
       1315                    1320                    1325
Glu Ser Ala Glu Gly Glu Ile Ile Ile Asp Gly Ile Asn Ile Ala Lys
   1330                    1335                    1340
Ile Gly Leu His Asp Leu Arg Phe Lys Ile Thr Ile Ile Pro Gln Asp
1345                    1350                    1355                    1360
Pro Val Leu Phe Ser Gly Ser Leu Arg Met Asn Leu Asp Pro Phe Ser
               1365                    1370                    1375
Gln Tyr Ser Asp Glu Glu Val Trp Thr Ser Leu Glu Leu Ala His Leu
           1380                    1385                    1390
Lys Asp Phe Val Ser Ala Leu Pro Asp Lys Leu Asp His Glu Cys Ala
       1395                    1400                    1405
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Glu Gly Gly Glu Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu
   1410   1415   1420

Ala Arg Ala Leu Leu Arg Lys Thr Lys Ile Leu Val Leu Asp Glu Ala
1425   1430   1435   1440

Thr Ala Ala Val Asp Leu Glu Thr Asp Asp Leu Ile Gln Ser Thr Ile
          1445   1450   1455

Arg Thr Gln Phe Glu Asp Cys Thr Val Leu Thr Ile Ala His Arg Leu
          1460   1465   1470

Asn Thr Ile Met Asp Tyr Thr Arg Val Ile Val Leu Asp Lys Gly Glu
          1475   1480   1485

Ile Gln Glu Tyr Gly Ala Pro Ser Asp Leu Leu Gln Gln Arg Gly Leu
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Phe Tyr Ser Met Ala Lys Asp Ala Gly Leu Val
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<213> Homo sapiens

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        20   25   30

Ser Phe Leu Val Arg Tyr Ile Ser Pro Phe Thr Gln Glu Ile Phe Ala
        35   40   45

Phe Leu Ile Ser Leu Ile Phe Ile Tyr Glu Thr Phe Tyr Lys Leu Tyr
        50   55   60

Lys Val Phe Thr Glu His Pro Leu Leu Pro Phe Tyr Pro Pro Glu Pro
65   70   75   80

Gly Gly Val Pro Gly Cys Trp Ser Gly Ala Lys Trp Gln Leu Pro Pro
        85   90   95

Thr Glu Gly Pro Pro Ser Pro Arg Asn Gln Pro Asn Thr Ala Leu Leu
        100   105   110

Ser Leu Ile Leu Met Leu Gly Thr Phe Phe Ile Ala Phe Phe Leu Arg
        115   120   125

Lys Phe Arg Asn Ser Arg Phe Leu Gly Gly Lys Ala Arg Arg Ile Ile
        130   135   140

Gly Asp Phe Gly Ile Pro Ile Ser Ile Leu Val Met Val Leu Val Asp
145   150   155   160

Tyr Ser Ile Thr Asp Thr Tyr Thr Gln Lys Leu Thr Val Pro Thr Gly
        165   170   175

Leu Ser Val Thr Ser Pro Asp Lys Arg Ser Trp Phe Ile Pro Pro Leu
        180   185   190

Gly Ser Ala Arg Pro Phe Pro Pro Trp Met Met Val Ala Ala Ala Val
        195   200   205

Pro Ala Leu Leu Val Leu Ile Leu Ile Phe Met Glu Thr Gln Ile Thr
      210   215   220

Ala Leu Ile Val Ser Gln Lys Ala Arg Arg Leu Leu Lys Gly Ser Gly
225   230   235   240

Phe His Leu Asp Leu Leu Leu Ile Gly Ser Leu Gly Gly Leu Cys Gly
        245   250   255

Leu Phe Gly Leu Pro Trp Leu Thr Ala Ala Thr Val Arg Ser Val Thr
        260   265   270

His Val Asn Ala Leu Thr Val Met Arg Thr Ala Ile Ala Pro Gly Asp
        275   280   285

Lys Pro Gln Ile Gln Glu Val Arg Glu Gln Arg Val Thr Gly Val Leu
      290   295   300

Ile Ala Ser Leu Val Gly Leu Ser Ile Val Met Gly Ala Val Leu Arg
305   310   315   320

Arg Ile Pro Leu Ala Val Leu Phe Gly Ile Phe Leu Tyr Met Gly Val
        325   330   335

Thr Ser Leu Ser Gly Ile Gln Leu Ser Gln Arg Leu Leu Leu Ile Leu
        340   345   350
Met Pro Ala Lys His
        355

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        20   25   30
Leu Phe Leu Phe Phe Ile Leu Val Ala Val Arg His Ser His Pro Pro
        35   40   45
Leu Glu His His Glu Cys His Phe Pro Asn Lys Pro Leu Pro Ser Ala
    50   55   60
Gly Thr Val Pro Trp Leu Gln Gly Leu Ile Cys Asn Val Asn Asn Thr
65   70   75   80
Cys Phe Pro Gln Leu Thr Pro Gly Glu Glu Pro Gly Arg Leu Ser Asn
            85   90   95
Phe Asn Asp Ser Leu Val Ser Arg Leu Leu Ala Asp Ala Arg Thr Val
            100   105   110
Leu Gly Gly Ala Ser Ala His Arg Thr Leu Ala Gly Leu Gly Lys Leu
        115   120   125
Ile Ala Thr Leu Arg Ala Ala Arg Ser Thr Ala Gln Pro Gln Pro Thr
    130   135   140
Lys Gln Ser Pro Leu Glu Pro Pro Met Leu Asp Val Ala Glu Leu Leu
145   150   155   160
Thr Ser Leu Leu Arg Thr Glu Ser Leu Gly Leu Ala Leu Gly Gln Ala
            165   170   175
Gln Glu Pro Leu His Ser Leu Leu Glu Ala Ala Glu Asp Leu Ala Gln
        180   185   190
Glu Leu Leu Ala Leu Arg Ser Leu Val Glu Leu Arg Ala Leu Leu Gln
        195   200   205
Arg Pro Arg Gly Thr Ser Gly Pro Leu Glu Leu Leu Ser Glu Ala Leu
    210   215   220
Cys Ser Val Arg Gly Pro Ser Ser Thr Val Gly Pro Ser Leu Asn Trp
225   230   235   240
Tyr Glu Ala Ser Asp Leu Met Glu Leu Val Gly Gln Glu Pro Glu Ser
            245   250   255
Ala Leu Pro Asp Ser Ser Leu Ser Pro Ala Cys Ser Glu Leu Ile Gly
            260   265   270
Ala Leu Asp Ser His Pro Leu Ser Arg Leu Leu Trp Arg Arg Leu Lys
        275   280   285
Pro Leu Ile Leu Gly Lys Leu Leu Phe Ala Pro Asp Thr Pro Phe Thr
        290   295   300
Arg Lys Leu Met Ala Gln Val Asn Arg Thr Phe Glu Glu Leu Thr Leu
305   310   315   320
Leu Arg Asp Val Arg Glu Val Trp Glu Met Leu Gly Pro Arg Ile Phe
            325   330   335
Thr Phe Met Asn Asp Ser Ser Asn Val Ala Met Leu Gln Arg Leu Leu
            340   345   350
Gln Met Gln Asp Glu Gly Arg Arg Gln Pro Arg Pro Gly Gly Arg Asp
        355   360   365
His Met Glu Ala Leu Arg Ser Phe Leu Asp Pro Gly Ser Gly Gly Tyr
    370   375   380
Ser Trp Gln Asp Ala His Ala Asp Val Gly His Leu Val Gly Thr Leu
385   390   395   400
Gly Arg·Val Thr Glu Cys Leu Ser Leu Asp Lys Leu Glu Ala Ala Pro
            405   410   415

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Ser Glu Ala Ala Leu Val Ser Arg Ala Leu Gln Leu Leu Ala Glu His
              420   425   430
Arg Phe Trp Ala Gly Val Val Phe Leu Gly Pro Glu Asp Ser Ser Asp
              435   440   445
Pro Thr Glu His Pro Thr Pro Asp Leu Gly Pro Gly His Val Arg Ile
              450   455   460
Lys Ile Arg Met Asp Ile Asp Val Val Thr Arg Thr Asn Lys Ile Arg
465   470   475   480
Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala Asp Pro Leu Thr Asp Leu
              485   490   495
Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu Gln Asp Leu Val Glu Arg
              500   505   510
Ala Ala Val Arg Val Leu Ser Gly Ala Asn Pro Arg Ala Gly Leu Tyr
              515   520   525
Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val Asp Asp Val Phe Leu Arg
              530   535   540
Val Leu Ser Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr
545   550   555   560
Ser Val Thr Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg
              565   570   575
Leu Arg Asp Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp
              580   585   590
Leu Gly Trp Phe Leu Ser Cys Leu Gly Pro Phe Leu Leu Ser Ala Ala
              595   600   605
Leu Leu Val Leu Val Leu Lys Leu Gly Asp Ile Leu Pro Tyr Ser His
              610   615   620
Pro Gly Val Val Phe Leu Phe Leu Ala Ala Phe Ala Val Ala Thr Val
625   630   635   640
Thr Gln Ser Phe Leu Leu Ser Ala Phe Phe Ser Arg Ala Asn Leu Ala
              645   650   655
Ala Ala Cys Gly Gly Leu Ala Tyr Phe Ser Leu Tyr Leu Pro Tyr Val
              660   665   670
Leu Cys Val Ala Trp Arg Asp Arg Leu Pro Ala Gly Gly Arg Val Ala
              675   680   685
Ala Ser Leu Leu Ser Pro Val Ala Phe Gly Phe Gly Cys Glu Ser Leu
              690   695   700
Ala Leu Leu Glu Glu Gln Gly Glu Gly Ala Gln Trp His Asn Val Gly
705   710   715   720
Thr Arg Pro Thr Ala Asp Val Phe Ser Leu Ala Gln Val Ser Gly Leu
              725   730   735
Leu Leu Leu Asp Ala Ala Leu Tyr Gly Leu Ala Thr Trp Tyr Leu Glu
              740   745   750
Ala Val Cys Pro Gly Gln Tyr Gly Ile Pro Glu Pro Trp Asn Phe Pro
              755   760   765
Phe Arg Arg Ser Tyr Trp Cys Gly Pro Arg Pro Pro Lys Ser Pro Ala
              770   775   780
Pro Cys Pro Thr Pro Leu Asp Pro Lys Val Leu Val Glu Glu Ala Pro
785   790   795   800
Pro Gly Leu Ser Pro Gly Val Ser Val Arg Ser Leu Glu Lys Arg Phe
              805   810   815
Pro Gly Ser Pro Gln Pro Ala Leu Arg Gly Leu Ser Leu Asp Phe Tyr
              820   825   830
Gln Gly His Ile Thr Ala Phe Leu Gly His Asn Gly Ala Gly Lys Thr
              835   840   845
Thr Thr Leu Ser Ile Leu Ser Gly Leu Phe Pro Pro Ser Gly Gly Ser
              850   855   860
Ala Phe Ile Leu Gly His Asp Val Arg Ser Ser Met Ala Ala Ile Arg
865   870   875   880
Pro His Leu Gly Val Cys Pro Gln Tyr Asn Val Leu Phe Asp Met Leu
              885   890   ·   895
Thr Val Asp Glu His Val Trp Phe Tyr Gly Arg Leu Lys Gly Leu Ser
              900   905   910
Ala Ala Val Val Gly Pro Glu Gln Asp Arg Leu Leu Gln Asp Val Gly
                              Page 65

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          915                   920                   925
Leu Val Ser Lys Gln Ser Val Gln Thr Arg His Leu Ser Gly Gly Met
          930                   935                   940
Gln Arg Lys Leu Ser Val Ala Ile Ala Phe Val Gly Gly Ser Gln Val
945                   950                   955                   960
Val Ile Leu Asp Glu Pro Thr Ala Gly Val Asp Pro Ala Ser Arg Arg
                    965                   970                   975
Gly Ile Trp Glu Leu Leu Leu Lys Tyr Arg Glu Gly Arg Thr Leu Ile
                    980                   985                   990
Leu Ser Thr His His Leu Asp Glu Ala Glu Leu Leu Gly Asp Arg Val
          995                  1000                  1005
Ala Val Val Ala Gly Gly Arg Leu Cys Cys Cys Gly Ser Pro Leu Phe
          1010                  1015                  1020
Leu Arg Arg His Leu Gly Ser Gly Tyr Tyr Leu Thr Leu Val Lys Ala
1025                  1030                  1035                  1040
Arg Leu Pro Leu Thr Thr Asn Glu Lys Ala Asp Thr Asp Met Glu Gly
                    1045                  1050                  1055
Ser Val Asp Thr Arg Gln Glu Lys Lys Asn Gly Ser Gln Gly Ser Arg
                    1060                  1065                  1070
Val Gly Thr Pro Gln Leu Leu Ala Leu Val Gln His Trp Val Pro Gly
                    1075                  1080                  1085
Ala Arg Leu Val Glu Glu Leu Pro His Glu Leu Val Leu Val Leu Pro
          1090                  1095                  1100
Tyr Thr Gly Ala His Asp Gly Ser Phe Ala Thr Leu Phe Arg Glu Leu
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Asp Thr Arg Leu Ala Glu Leu Arg Leu Thr Gly Tyr Gly Ile Ser Asp
                    1125                  1130                  1135
Thr Ser Leu Glu Glu Ile Phe Leu Lys Val Val Glu Glu Cys Ala Ala
                    1140                  1145                  1150
Asp Thr Asp Met Glu Asp Gly Ser Cys Gly Gln His Leu Cys Thr Gly
          1155                  1160                  1165
Ile Ala Gly Leu Asp Val Thr Leu Arg Leu Lys Met Pro Pro Gln Glu
          1170                  1175                  1180
Thr Ala Leu Glu Asn Gly Glu Pro Ala Gly Ser Ala Pro Glu Thr Asp
1185                  1190                  1195                  1200
Gln Gly Ser Gly Pro Asp Ala Val Gly Arg Val Gln Gly Trp Ala Leu
                    1205                  1210                  1215
Thr Arg Gln Gln Leu Gln Ala Leu Leu Leu Lys Arg Phe Leu Leu Ala
                    1220                  1225                  1230
Arg Arg Ser Arg Arg Gly Leu Phe Ala Gln Ile Val Leu Pro Ala Leu
          1235                  1240                  1245
Phe Val Gly Leu Ala Leu Val Phe Ser Leu Ile Val Pro Pro Phe Gly
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His Tyr Pro Ala Leu Arg Leu Ser Pro Thr Met Tyr Gly Ala Gln Val
1265                  1270                  1275                  1280
Ser Phe Phe Ser Glu Asp Ala Pro Gly Asp Pro Gly Arg Ala Arg Leu
                    1285                  1290                  1295
Leu Glu Ala Leu Leu Gln Glu Ala Gly Leu Glu Glu Pro Pro Val Gln
          1300                  1305                  1310
His Ser Ser His Arg Phe Ser Ala Pro Glu Val Pro Ala Glu Val Ala
          1315                  1320                  1325
Lys Val Leu Ala Ser Gly Asn Trp Thr Pro Glu Ser Pro Ser Pro Ala
          1330                  1335                  1340
Cys Gln Cys Ser Arg Pro Gly Ala Arg Arg Leu Leu Pro Asp Cys Pro
1345                  1350                  1355                  1360
Ala Ala Ala Gly Gly Pro Pro Pro Gln Ala Val Thr Gly Ser Gly
                    1365                  1370                  1375
Glu Val Val Gln Asn Leu Thr Gly Arg Asn Leu Ser Asp Phe Leu Val
                    1380                  1385                  1390
Lys Thr Tyr Pro Arg Leu Val Arg Gln Gly Leu Lys Thr Lys Lys Trp
          1395                  1400                  1405
Val Asn Glu Val Arg Tyr Gly Gly Phe Ser Leu Gly Gly Arg Asp Pro
          1410                  1415                  1420
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Gly Leu Pro Ser Gly Gln Glu Leu Gly Arg Ser Val Glu Glu Leu Trp
1425   1430   1435   1440
Ala Leu Leu Ser Pro Leu Pro Gly Gly Ala Leu Asp Arg Val Leu Lys
                1445   1450   1455
Asn Leu Thr Ala Trp Ala His Ser Leu Asp Ala Gln Asp Ser Leu Lys
                1460   1465   1470
Ile Trp Phe Asn Asn Lys Gly Trp His Ser Met Val Ala Phe Val Asn
        1475   1480   1485
Arg Ala Ser Asn Ala Ile Leu Arg Ala His Leu Pro Pro Gly Pro Ala
    1490   1495   1500
Arg His Ala His Ser Ile Thr Thr Leu Asn His Pro Leu Asn Leu Thr
1505   1510   1515   1520
Lys Glu Gln Leu Ser Glu Gly Ala Leu Met Ala Ser Ser Val Asp Val
            1525   1530   1535
Leu Val Ser Ile Cys Val Val Phe Ala Met Ser Phe Val Pro Ala Ser
            1540   1545   1550
Phe Thr Leu Val Leu Ile Glu Glu Arg Val Thr Arg Ala Lys His Leu
        1555   1560   1565
Gln Leu Met Gly Gly Leu Ser Pro Thr Leu Tyr Trp Leu Gly Asn Phe
    1570   1575   1580
Leu Trp Asp Met Cys Asn Tyr Leu Val Pro Ala Cys Ile Val Val Leu
1585   1590   1595   1600
Ile Phe Leu Ala Phe Gln Gln Arg Ala Tyr Val Ala Pro Ala Asn Leu
            1605   1610   1615
Pro Ala Leu Leu Leu Leu Leu Leu Leu Tyr Gly Trp Ser Ile Thr Pro
            1620   1625   1630
Leu Met Tyr Pro Ala Ser Phe Phe Phe Ser Val Pro Ser Thr Ala Tyr
        1635   1640   1645
Val Val Leu Thr Cys Ile Asn Leu Phe Ile Gly Ile Asn Gly Ser Met
    1650   1655   1660
Ala Thr Phe Val Leu Glu Leu Phe Ser Asp Gln Gln Lys Leu Gln Glu
1665   1670   1675   1680
Val Ser Arg Ile Leu Lys Gln Val Phe Leu Ile Phe Pro His Phe Cys
            1685   1690   1695
Leu Gly Arg Gly Leu Ile Asp Met Val Arg Asn Gln Ala Met Ala Asp
        1700   1705   1710
Ala Phe Glu Arg Leu Gly Asp Arg Gln Phe Gln Ser Pro Leu Arg Trp
        1715   1720   1725
Glu Val Val Gly Lys Asn Leu Ala Met Val Ile Gln Gly Pro Leu
    1730   1735   1740
Phe Leu Leu Phe Thr Leu Leu Leu Gln His Arg Ser Gln Leu Leu Pro
1745   1750   1755   1760
Gln Pro Arg Val Arg Ser Leu Pro Leu Leu Gly Glu Glu Asp Glu Asp
            1765   1770   1775
Val Ala Arg Glu Arg Glu Arg Val Val Gln Gly Ala Thr Gln Gly Asp
            1780   1785   1790
Val Leu Val Leu Arg Asn Leu Thr Lys Val Tyr Arg Gly Gln Arg Met
        1795   1800   1805
Pro Ala Val Asp Arg Leu Cys Leu Gly Ile Pro Pro Gly Glu Cys Phe
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Gly Leu Leu Gly Val Asn Gly Ala Gly Lys Thr Ser Thr Phe Arg Met
1825   1830   1835   1840
Val Thr Gly Asp Thr Leu Ala Ser Arg Gly Glu Ala Val Leu Ala Gly
            1845   1850   1855
His Ser Val Ala Arg Glu Pro Ser Ala Ala His Leu Ser Met Gly Tyr
        1860   1865   1870
Cys Pro Gln Ser Asp Ala Ile Phe Glu Leu Leu Thr Gly Arg Glu His
        1875   1880   1885
Leu Glu Leu Leu Ala Arg Leu Arg Gly Val Pro Glu Ala Gln Val Ala
    1890   1895   1900
Gln Thr Ala Gly Ser Gly Leu Ala Arg Leu Gly Leu Ser Trp Tyr Ala
1905   1910   1915   1920
Asp Arg Pro Ala Gly Thr Tyr Ser Gly Gly Asn Lys Arg Lys Leu Ala
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                    1925   1930   1935
Thr Ala Leu Ala Leu Val Gly Asp Pro Ala Val Val Phe Leu Asp Glu
            1940   1945   1950
Pro Thr Thr Gly Met Asp Pro Ser Ala Arg Arg Phe Leu Trp Asn Ser
        1955   1960   1965
Leu Leu Ala Val Val Arg Glu Gly Arg Ser Val Met Leu Thr Ser His
    1970   1975   1980
Ser Met Glu Glu Cys Glu Ala Leu Cys Ser Arg Leu Ala Ile Met Val
1985   1990   1995   2000
Asn Gly Arg Phe Arg Cys Leu Gly Ser Pro Gln His Leu Lys Gly Arg
                2005   2010   2015
Phe Ala Ala Gly His Thr Leu Thr Leu Arg Val Pro Ala Ala Arg Ser
            2020   2025   2030
Gln Pro Ala Ala Ala Phe Val Ala Ala Glu Phe Pro Gly Ala Glu Leu
        2035   2040   2045
Arg Glu Ala His Gly Gly Arg Leu Arg Phe Gln Leu Pro Pro Gly Gly
    2050   2055   2060
Arg Cys Ala Leu Ala Arg Val Phe Gly Glu Leu Ala Val His Gly Ala
2065   2070   2075   2080
Glu His Gly Val Glu Asp Phe Ser Val Ser Gln Thr Met Leu Glu Glu
                2085   2090   2095
Val Phe Leu Tyr Phe Ser Lys Asp Gln Gly Lys Asp Glu Asp Thr Glu
            2100   2105   2110
Glu Gln Lys Glu Ala Gly Val Gly Val Asp Pro Ala Pro Gly Leu Gln
        2115   2120   2125
His Pro Lys Arg Val Ser Gln Phe Leu Asp Asp Pro Ser Thr Ala Glu
    2130   2135   2140
Thr Val Leu
2145

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Gly Arg Ile Ala Gln Tyr Tyr Tyr Thr Phe Lys Ser Phe Tyr Phe Pro
        35   40   45
Met Ser Ile Asp Lys Lys Leu Ser Phe Phe Cys Leu Ala Gly Tyr Thr
        50   55   60
Thr Glu Ser Gly Arg Gln Glu Glu Gln Thr Thr Cys Thr Thr Glu Gly
65   70   75   80
Trp Ser Pro Glu Pro Arg Cys Phe Lys Lys Cys Thr Lys Pro Asp Leu
            85   90   95
Ser Asn Gly Tyr Ile Ser Asp Val Lys Leu Leu Tyr Lys Ile Gln Glu
            100   105   110
Asn Met His Tyr Gly Cys Ala Ser Gly Tyr Lys Thr Thr Gly Gly Lys
        115   120   125
Asp Glu Glu Val Val Gln Cys Leu Ser Asp Gly Trp Ser Ser Gln Pro
    130   135   140
Thr Cys Arg Lys Glu His Glu Thr Cys Leu Ala Pro Glu Leu Tyr Asn
145   150   155   160
Gly Asn Tyr Ser Thr Thr Gln Lys Thr Phe Lys Val Lys Asp Lys Val
                165   170   175
Gln Tyr Glu Cys Ala Thr Gly Tyr Tyr Thr Ala Gly Gly Lys Lys Thr
            180   185   190
Glu Glu Val Glu Cys Leu Thr Tyr Gly Trp Ser Leu Thr Pro Lys Cys
        195   200   205
Thr Lys Leu Lys Cys Ser Ser Leu Arg Leu Ile Glu Asn Gly Tyr Phe

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            210                     215                     220
His Pro Val Lys Gln Thr Tyr Glu Glu Gly Asp Val Val Gln Phe Phe
225                     230                     235                     240
Cys His Glu Asn Tyr Tyr Leu Ser Gly Ser Asp Leu Ile Gln Cys Tyr
                    245                     250                     255
Asn Phe Gly Trp Tyr Pro Glu Ser Pro Val Cys Glu Gly Arg Arg Asn
                260                     265                     270
Arg Cys Pro Pro Pro Leu Pro Ile Asn Ser Lys Ile Gln Thr His
            275                     280                     285
Ser Thr Thr Tyr Arg His Gly Glu Ile Val His Ile Glu Cys Glu Leu
            290                     295                     300
Asn Phe Glu Ile His Gly Ser Ala Glu Ile Arg Cys Glu Asp Gly Lys
305                     310                     315                     320
Ser Thr Glu Pro Pro Lys Cys Ile Glu Gly Gln Glu Lys Val Ala Cys
                    325                     330                     335
Glu Glu Pro Pro Phe Ile Glu Asn Gly Ala Ala Asn Leu His Ser Lys
                340                     345                     350
Ile Tyr Tyr Asn Gly Asp Lys Val Thr Tyr Ala Cys Lys Ser Gly Tyr
                355                     360                     365
Leu Leu His Gly Ser Asn Glu Ile Thr Cys Asn Arg Gly Lys Trp Thr
            370                     375                     380
Leu Pro Pro Glu Cys Val Glu Asn Asn Glu Asn Cys Lys His Pro Pro
385                     390                     395                     400
Val Val Met Asn Gly Ala Val Ala Asp Gly Ile Leu Ala Ser Tyr Ala
                    405                     410                     415
Thr Gly Ser Ser Val Glu Tyr Arg Cys Asn Glu Tyr Tyr Leu Leu Arg
                420                     425                     430
Gly Ser Lys Ile Ser Arg Cys Glu Gln Gly Lys Trp Ser Ser Pro Pro
            435                     440                     445
Val Cys Leu Glu Pro Cys Thr Val Asn Val Asp Tyr Met Asn Arg Asn
            450                     455                     460
Asn Ile Glu Met Lys Trp Lys Tyr Glu Gly Lys Val Leu His Gly Asp
465                     470                     475                     480
Leu Ile Asp Phe Val Cys Lys Gln Gly Tyr Asp Leu Ser Pro Leu Thr
                    485                     490                     495
Pro Leu Ser Glu Leu Ser Val Gln Cys Asn Arg Gly Glu Val Lys Tyr
                500                     505                     510
Pro Leu Cys Thr Arg Lys Glu Ser Lys Gly Met Cys Thr Ser Pro Pro
            515                     520                     525
Leu Ile Lys His Gly Val Ile Ile Ser Ser Thr Val Asp Thr Tyr Glu
            530                     535                     540
Asn Gly Ser Ser Val Glu Tyr Arg Cys Phe Asp His His Phe Leu Glu
545                     550                     555                     560
Gly Ser Arg Glu Ala Tyr Cys Leu Asp Gly Met Trp Thr Thr Pro Pro
                    565                     570                     575
Leu Cys Leu Glu Pro Cys Thr Leu Ser Phe Thr Glu Met Glu Lys Asn
                580                     585                     590
Asn Leu Leu Leu Lys Trp Asp Phe Asp Asn Arg Pro His Ile Leu His
            595                     600                     605
Gly Glu Tyr Ile Glu Phe Ile Cys Arg Gly Asp Thr Tyr Pro Ala Glu
            610                     615                     620
Leu Tyr Ile Thr Gly Ser Ile Leu Arg Met Gln Cys Asp Arg Gly Gln
625                     630                     635                     640
Leu Lys Tyr Pro Arg Cys Ile Pro Arg Gln
                    645                     650
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<210> 46
<211> 2496
<212> PRT
<213> Homo sapiens

<400> 46
Met Gly Ala Ala Ala Gly Arg Ser Pro His Leu Gly Pro Ala Pro Ala

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 1                    5                   10                  15
Arg Arg Pro Gln Arg Ser Leu Leu Leu Leu Gln Leu Leu Leu Leu Val
            20                  25                  30
Ala Ala Pro Gly Ser Thr Gln Ala Gln Ala Ala Pro Phe Pro Glu Leu
            35                  40                  45
Cys Ser Tyr Thr Trp Glu Ala Val Asp Thr Lys Asn Asn Val Leu Tyr
    50                  55                  60
Lys Ile Asn Ile Cys Gly Ser Val Asp Ile Val Gln Cys Gly Pro Ser
65                  70                  75                  80
Ser Ala Val Cys Met His Asp Leu Lys Thr Arg Thr Tyr His Ser Val
            85                  90                  95
Gly Asp Ser Val Leu Arg Ser Ala Thr Arg Ser Leu Leu Glu Phe Asn
            100                 105                 110
Thr Thr Val Ser Cys Asp Gln Gln Gly Thr Asn His Arg Val Gln Ser
            115                 120                 125
Ser Ile Ala Phe Leu Cys Gly Lys Thr Leu Gly Thr Pro Glu Phe Val
    130                 135                 140
Thr Ala Thr Glu Cys Val His Tyr Phe Glu Trp Arg Thr Thr Ala Ala
145                 150                 155                 160
Cys Lys Lys Asp Ile Phe Lys Ala Asn Lys Glu Val Pro Cys Tyr Val
            165                 170                 175
Phe Asp Glu Glu Leu Arg Lys His Asp Leu Asn Pro Leu Ile Lys Leu
            180                 185                 190
Ser Gly Ala Tyr Leu Val Asp Asp Ser Asp Pro Asp Thr Ser Leu Phe
            195                 200                 205
Ile Asn Val Cys Arg Asp Ile Asp Thr Leu Arg Asp Pro Gly Ser Gln
    210                 215                 220
Leu Arg Ala Cys Pro Pro Gly Thr Ala Ala Cys Leu Val Arg Gly His
225                 230                 235                 240
Gln Ala Phe Asp Val Gly Gln Pro Arg Asp Gly Leu Lys Leu Val Arg
            245                 250                 255
Lys Asp Arg Leu Val Leu Ser Tyr Val Arg Glu Glu Ala Gly Lys Leu
            260                 265                 270
Asp Phe Cys Asp Gly His Ser Pro Ala Val Thr Ile Thr Phe Val Cys
            275                 280                 285
Pro Ser Glu Arg Arg Glu Gly Thr Ile Pro Lys Leu Thr Ala Lys Ser
    290                 295                 300
Asn Cys Arg Tyr Glu Ile Glu Trp Ile Thr Glu Tyr Ala Cys His Arg
305                 310                 315                 320
Asp Tyr Leu Glu Ser Lys Thr Cys Ser Leu Ser Gly Glu Gln Gln Asp
            325                 330                 335
Val Ser Ile Asp Leu Thr Pro Leu Ala Gln Ser Gly Gly Ser Ser Tyr
            340                 345                 350
Ile Ser Asp Gly Lys Glu Tyr Leu Phe Tyr Leu Asn Val Cys Gly Glu
            355                 360                 365
Thr Glu Ile Gln Phe Cys Asn Lys Lys Gln Ala Ala Val Cys Gln Val
            370                 375                 380
Lys Lys Ser Asp Thr Ser Gln Val Lys Ala Ala Gly Arg Tyr His Asn
385                 390                 395                 400
Gln Thr Leu Arg Tyr Ser Asp Gly Asp Leu Thr Leu Ile Tyr Phe Gly
            405                 410                 415
Gly Asp Glu Cys Ser Ser Gly Phe Gln Arg Met Ser Val Ile Asn Phe
            420                 425                 430
Glu Cys Asn Lys Thr Ala Gly Asn Asp Gly Lys Gly Thr Pro Val Phe
            435                 440                 445
Thr Gly Glu Val Asp Cys Thr Tyr Phe Phe Thr Trp Asp Thr Glu Tyr
    450                 455                 460
Ala Cys Val Lys Glu Lys Glu Asp Leu Leu Cys Gly Ala Thr Asp Gly
465                 470                 475                 480
Lys Lys Arg Tyr Asp Leu Ser Ala Leu Val Arg His Ala Glu Pro Glu
            485                 490                 495
Gln Asn Trp Glu Ala Val Asp Gly Ser Gln Thr Glu Thr Glu Lys Lys
            500                 505                 510
```

```
His Phe Phe Ile Asn Ile Cys His Arg Val Leu Gln Glu Gly Lys Ala
        515                 520                 525
Arg Gly Cys Pro Glu Asp Ala Ala Val Cys Ala Val Asp Lys Asn Gly
530                 535                 540
Ser Lys Asn Leu Gly Lys Phe Ile Ser Ser Pro Met Lys Glu Lys Gly
545                 550                 555                 560
Asn Ile Gln Leu Ser Tyr Ser Asp Gly Asp Asp Cys Gly His Gly Lys
                565                 570                 575
Lys Ile Lys Thr Asn Ile Thr Leu Val Cys Lys Pro Gly Asp Leu Glu
        580                 585                 590
Ser Ala Pro Val Leu Arg Thr Ser Gly Glu Gly Gly Cys Phe Tyr Glu
        595                 600                 605
Phe Glu Trp His Thr Ala Ala Ala Cys Val Leu Ser Lys Thr Glu Gly
    610                 615                 620
Glu Asn Cys Thr Val Phe Asp Ser Gln Ala Gly Phe Ser Phe Asp Leu
625                 630                 635                 640
Ser Pro Leu Thr Lys Lys Asn Gly Ala Tyr Lys Val Glu Thr Lys Lys
                645                 650                 655
Tyr Asp Phe Tyr Ile Asn Val Cys Gly Pro Val Ser Val Ser Pro Cys
            660                 665                 670
Gln Pro Asp Ser Gly Ala Cys Gln Val Ala Lys Arg Gln Val Ala Ser
        675                 680                 685
His Asp Glu Lys Thr Trp Asn Leu Gly Leu Ser Asn Ala Lys Leu Ser
    690                 695                 700
Tyr Tyr Asp Gly Met Ile Gln Leu Asn Tyr Arg Gly Gly Thr Pro Tyr
705                 710                 715                 720
Asn Asn Glu Arg His Thr Pro Arg Ala Thr Leu Ile Thr Phe Leu Cys
                725                 730                 735
Asp Arg Asp Ala Gly Val Gly Phe Pro Glu Tyr Gln Glu Glu Asp Asn
            740                 745                 750
Ser Thr Tyr Asn Phe Arg Trp Tyr Thr Ser Tyr Ala Cys Pro Glu Glu
        755                 760                 765
Pro Leu Glu Cys Val Val Thr Asp Pro Ser Thr Leu Glu Gln Tyr Asp
    770                 775                 780
Leu Ser Ser Leu Ala Lys Ser Glu Gly Gly Leu Gly Gly Asn Trp Tyr
785                 790                 795                 800
Ala Met Asp Asn Ser Gly Glu His Val Thr Trp Arg Lys Tyr Tyr Ile
            805                 810                 815
Asn Val Cys Arg Pro Leu Asn Pro Val Pro Gly Cys Asn Arg Tyr Ala
        820                 825                 830
Ser Ala Cys Gln Met Lys Tyr Glu Lys Asp Gln Gly Ser Phe Thr Glu
        835                 840                 845
Val Val Ser Ile Ser Asn Leu Gly Met Ala Lys Thr Gly Pro Val Val
    850                 855                 860
Glu Asp Ser Gly Ser Leu Leu Leu Glu Tyr Val Asn Gly Ser Ala Cys
865                 870                 875                 880
Thr Thr Ser Asp Gly Arg Gln Thr Thr Tyr Thr Thr Arg Ile His Leu
            885                 890                 895
Val Cys Ser Arg Gly Arg Leu Asn Ser His Pro Ile Phe Ser Leu Asn
        900                 905                 910
Trp Glu Cys Val Val Ser Phe Leu Trp Asn Thr Glu Ala Ala Cys Pro
    915                 920                 925
Ile Gln Thr Thr Thr Asp Thr Asp Gln Ala Cys Ser Ile Arg Asp Pro
    930                 935                 940
Asn Ser Gly Phe Val Phe Asn Leu Asn Pro Leu Asn Ser Ser Gln Gly
945                 950                 955                 960
Tyr Asn Val Ser Gly Ile Gly Lys Ile Phe Met Phe Asn Val Cys Gly
                965                 970                 975
Thr Met Pro Val Cys Gly Thr Ile Leu Gly Lys Pro Ala Ser Gly Cys
        980                 985                 990
Glu Ala Glu Thr Gln Thr Glu Glu Leu Lys Asn Trp Lys Pro Ala Arg
    995                 1000                1005
Pro Val Gly Ile Glu Lys Ser Leu Gln Leu Ser Thr Glu Gly Phe Ile
```

```
          1010                    1015                    1020
Thr Leu Thr Tyr Lys Gly Pro Leu Ser Ala Lys Gly Thr Ala Asp Ala
1025                    1030                    1035                    1040
Phe Ile Val Arg Phe Val Cys Asn Asp Asp Val Tyr Ser Gly Pro Leu
                    1045                    1050                    1055
Lys Phe Leu His Gln Asp Ile Asp Ser Gly Gln Gly Ile Arg Asn Thr
                    1060                    1065                    1070
Tyr Phe Glu Phe Glu Thr Ala Leu Ala Cys Val Pro Ser Pro Val Asp
          1075                    1080                    1085
Cys Gln Val Thr Asp Leu Ala Gly Asn Glu Tyr Asp Leu Thr Gly Leu
          1090                    1095                    1100
Ser Thr Val Arg Lys Pro Trp Thr Ala Val Asp Thr Ser Val Asp Gly
1105                    1110                    1115                    1120
Arg Lys Arg Thr Phe Tyr Leu Ser Val Cys Asn Pro Leu Pro Tyr Ile
                    1125                    1130                    1135
Pro Gly Cys Gln Gly Asp Ala Val Gly Ser Cys Leu Val Ser Glu Gly
                    1140                    1145                    1150
Asn Ser Trp Asn Leu Gly Val Val Gln Met Ser Pro Gln Ala Ala Ala
          1155                    1160                    1165
Asn Gly Ser Leu Ser Ile Met Tyr Val Asn Gly Asp Lys Cys Gly Asn
          1170                    1175                    1180
Gln Arg Phe Ser Thr Arg Ile Thr Phe Glu Cys Ala Gln Ile Ser Gly
1185                    1190                    1195                    1200
Ser Pro Ala Phe Gln Leu Gln Asp Gly Cys Glu Tyr Val Phe Ile Trp
                    1205                    1210                    1215
Arg Thr Val Glu Ala Cys Pro Val Val Arg Val Glu Gly Asp Asn Cys
          1220                    1225                    1230
Glu Val Lys Asp Pro Arg His Gly Asn Leu Tyr Asp Leu Lys Pro Leu
          1235                    1240                    1245
Gly Leu Asn Asp Thr Ile Val Ser Ala Gly Glu Tyr Thr Tyr Tyr Phe
          1250                    1255                    1260
Arg Val Cys Gly Lys Leu Ser Ser Asp Val Cys Pro Thr Ser Asp Lys
1265                    1270                    1275                    1280
Ser Lys Val Val Ser Ser Cys Gln Glu Lys Arg Glu Pro Gln Gly Phe
                    1285                    1290                    1295
His Lys Val Ala Gly Leu Leu Thr Gln Lys Leu Thr Tyr Glu Asn Gly
          1300                    1305                    1310
Leu Leu Lys Met Asn Phe Thr Gly Gly Asp Thr Cys His Lys Val Tyr
          1315                    1320                    1325
Gln Arg Ser Thr Ala Ile Phe Phe Tyr Cys Asp Arg Gly Thr Gln Arg
          1330                    1335                    1340
Pro Val Phe Leu Lys Glu Thr Ser Asp Cys Ser Tyr Leu Phe Glu Trp
1345                    1350                    1355                    1360
Arg Thr Gln Tyr Ala Cys Pro Pro Phe Asp Leu Thr Glu Cys Ser Phe
                    1365                    1370                    1375
Lys Asp Gly Ala Gly Asn Ser Phe Asp Leu Ser Ser Leu Ser Arg Tyr
          1380                    1385                    1390
Ser Asp Asn Trp Glu Ala Ile Thr Gly Thr Gly Asp Pro Glu His Tyr
          1395                    1400                    1405
Leu Ile Asn Val Cys Lys Ser Leu Ala Pro Gln Ala Gly Thr Glu Pro
          1410                    1415                    1420
Cys Pro Pro Glu Ala Ala Ala Cys Leu Leu Gly Gly Ser Lys Pro Val
1425                    1430                    1435                    1440
Asn Leu Gly Arg Val Arg Asp Gly Pro Gln Trp Arg Asp Gly Ile Ile
                    1445                    1450                    1455
Val Leu Lys Tyr Val Asp Gly Asp Leu Cys Pro Asp Gly Ile Arg Lys
          1460                    1465                    1470
Lys Ser Thr Thr Ile Arg Phe Thr Cys Ser Glu Ser Gln Val Asn Ser
          1475                    1480                    1485
Arg Pro Met Phe Ile Ser Ala Val Glu Asp Cys Glu Tyr Thr Phe Ala
          1490                    1495                    1500
Trp Pro Thr Ala Thr Ala Cys Pro Met Lys Ser Asn Glu His Asp Asp
1505                    1510                    1515                    1520
```

Cys Gln Val Thr Asn Pro Ser Thr Gly His Leu Phe Asp Leu Ser Ser
                    1525   1530   1535
Leu Ser Gly Arg Ala Gly Phe Thr Ala Ala Tyr Ser Glu Lys Gly Leu
              1540   1545   1550
Val Tyr Met Ser Ile Cys Gly Glu Asn Glu Asn Cys Pro Pro Gly Val
              1555   1560   1565
Gly Ala Cys Phe Gly Gln Thr Arg Ile Ser Val Gly Lys Ala Asn Lys
          1570   1575   1580
Arg Leu Arg Tyr Val Asp Gln Val Leu Gln Leu Val Tyr Lys Asp Gly
1585   1590   1595   1600
Ser Pro Cys Pro Ser Lys Ser Gly Leu Ser Tyr Lys Ser Val Ile Ser
                    1605   1610   1615
Phe Val Cys Arg Pro Glu Ala Arg Pro Thr Asn Arg Pro Met Leu Ile
              1620   1625   1630
Ser Leu Asp Lys Gln Thr Cys Thr Leu Phe Phe Ser Trp His Thr Pro
              1635   1640   1645
Leu Ala Cys Glu Gln Ala Thr Glu Cys Ser Val Arg Asn Gly Ser Ser
          1650   1655   1660
Ile Val Asp Leu Ser Pro Leu Ile His Arg Thr Gly Gly Tyr Glu Ala
1665   1670   1675   1680
Tyr Asp Glu Ser Glu Asp Asp Ala Ser Asp Thr Asn Pro Asp Phe Tyr
                    1685   1690   1695
Ile Asn Ile Cys Gln Pro Leu Asn Pro Met His Gly Val Pro Cys Pro
              1700   1705   1710
Ala Gly Ala Ala Val Cys Lys Val Pro Ile Asp Gly Pro Pro Ile Asp
              1715   1720   1725
Ile Gly Arg Val Ala Gly Pro Pro Ile Leu Asn Pro Ile Ala Asn Glu
          1730   1735   1740
Ile Tyr Leu Asn Phe Glu Ser Ser Thr Pro Cys Leu Ala Asp Lys His
1745   1750   1755   1760
Phe Asn Tyr Thr Ser Leu Ile Ala Phe His Cys Lys Arg Gly Val Ser
                    1765   1770   1775
Met Gly Thr Pro Lys Leu Leu Arg Thr Ser Glu Cys Asp Phe Val Phe
              1780   1785   1790
Glu Trp Glu Thr Pro Val Val Cys Pro Asp Glu Val Arg Met Asp Gly
          1795   1800   1805
Cys Thr Leu Thr Asp Glu Gln Leu Leu Tyr Ser Phe Asn Leu Ser Ser
      1810   1815   1820
Leu Ser Thr Ser Thr Phe Lys Val Thr Arg Asp Ser Arg Thr Tyr Ser
1825   1830   1835   1840
Val Gly Val Cys Thr Phe Ala Val Gly Pro Glu Gln Gly Gly Cys Lys
                    1845   1850   1855
Asp Gly Gly Val Cys Leu Leu Ser Gly Thr Lys Gly Ala Ser Phe Gly
              1860   1865   1870
Arg Leu Gln Ser Met Lys Leu Asp Tyr Arg His Gln Asp Glu Ala Val
          1875   1880   1885
Val Leu Ser Tyr Val Asn Gly Asp Arg Cys Pro Pro Glu Thr Asp Asp
          1890   1895   1900
Gly Val Pro Cys Val Phe Pro Phe Ile Phe Asn Gly Lys Ser Tyr Glu
1905   1910   1915   1920
Glu Cys Ile Ile Glu Ser Arg Ala Lys Leu Trp Cys Ser Thr Thr Ala
              1925   1930   1935
Asp Tyr Asp Arg Asp His Glu Trp Gly Phe Cys Arg His Ser Asn Ser
          1940   1945   1950
Tyr Arg Thr Ser Ser Ile Ile Phe Lys Cys Asp Glu Asp Glu Asp Ile
          1955   1960   1965
Gly Arg Pro Gln Val Phe Ser Glu Val Arg Gly Cys Asp Val Thr Phe
      1970   1975   1980
Glu Trp Lys Thr Lys Val Val Cys Pro Pro Lys Lys Leu Glu Cys Lys
1985   1990   1995   2000
Phe Val Gln Lys His Lys Thr Tyr Asp Leu Arg Leu Leu Ser Ser Leu
                    2005   2010   2015
Thr Gly Ser Trp Ser Leu Val His Asn Gly Val Ser Tyr Tyr Ile Asn
                              Page 73

```
                  2020                2025                2030
Leu Cys Gln Lys Ile Tyr Lys Gly Pro Leu Gly Cys Ser Glu Arg Ala
          2035                2040                2045       .
Ser Ile Cys Arg Arg Thr Thr Thr Gly Asp Val Gln Val Leu Gly Leu
     2050                2055                2060
Val His Thr Gln Lys Leu Gly Val Ile Gly Asp Lys Val Val Val Thr
2065                2070                2075                2080
Tyr Ser Lys Gly Tyr Pro Cys Gly Gly Asn Lys Thr Ala Ser Ser Val
              2085                2090                2095
Ile Glu Leu Thr Cys Thr Lys Thr Val Gly Arg Pro Ala Phe Lys Arg
          2100                2105                2110
Phe Asp Ile Asp Ser Cys Thr Tyr Tyr Phe Ser Trp Asp Ser Arg Ala
          2115                2120                2125
Ala Cys Ala Val Lys Pro Gln Glu Val Gln Met Val Asn Gly Thr Ile
     2130                2135                2140
Thr Asn Pro Ile Asn Gly Lys Ser Phe Ser Leu Gly Asp Ile Tyr Phe
2145                2150                2155                2160
Lys Leu Phe Arg Ala Ser Gly Asp Met Arg Thr Asn Gly Asp Asn Tyr
              2165                2170                2175
Leu Tyr Glu Ile Gln Leu Ser Ser Ile Thr Ser Ser Arg Asn Pro Ala
          2180                2185                2190
Cys Ser Gly Ala Asn Ile Cys Gln Val Lys Pro Asn Asp Gln His Phe
          2195                2200                2205
Ser Arg Lys Val Gly Thr Ser Asp Lys Thr Lys Tyr Tyr Leu Gln Asp
     2210                2215                2220
Gly Asp Leu Asp Val Val Phe Ala Ser Ser Ser Lys Cys Gly Lys Asp
2225                2230                2235                2240
Lys Thr Lys Ser Val Ser Ser Thr Ile Phe Phe His Cys Asp Pro Leu
              2245                2250                2255
Val Glu Asp Gly Ile Pro Glu Phe Ser His Glu Thr Ala Asp Cys Gln
          2260                2265                2270
Tyr Leu Phe Ser Trp Tyr Thr Ser Ala Val Cys Pro Leu Gly Val Gly
          2275                2280                2285
Phe Asp Ser Glu Asn Pro Gly Asp Asp Gly Gln Met His Lys Gly Leu
     2290                2295                2300
Ser Glu Arg Ser Gln Ala Val Gly Ala Val Leu Ser Leu Leu Leu Val
2305                2310                2315                2320
Ala Leu Thr Cys Cys Leu Leu Ala Leu Leu Leu Tyr Lys Lys Glu Arg
          2325                2330                2335
Arg Glu Thr Val Ile Ser Lys Leu Thr Thr Cys Cys Arg Arg Ser Ser
          2340                2345                2350
Asn Val Ser Tyr Lys Tyr Ser Lys Val Asn Lys Glu Glu Glu Thr Asp
     2355                2360                2365
Glu Asn Glu Thr Glu Trp Leu Met Glu Glu Ile Gln Leu Pro Pro Pro
2370                2375                2380
Arg Gln Gly Lys Glu Gly Gln Glu Asn Gly His Ile Thr Thr Lys Ser
2385                2390                2395                2400
Val Lys Ala Leu Ser Ser Leu His Gly Asp Asp Gln Asp Ser Glu Asp
              2405                2410                2415
Glu Val Leu Thr Ile Pro Glu Val Lys Val His Ser Gly Arg Gly Ala
          2420                2425                2430
Gly Ala Glu Ser Ser His Pro Val Arg Asn Ala Gln Ser Asn Ala Leu
          2435                2440                2445
Gln Glu Arg Glu Asp Asp Arg Val Gly Leu Val Arg Gly Glu Lys Ala
     2450                2455                2460
Arg Lys Gly Lys Ser Ser Ser Ala Gln Gln Lys Thr Val Ser Ser Thr
2465                2470                2475                2480
Lys Leu Val Ser Phe His Asp Asp Ser Asp Glu Asp Leu Leu His Ile
              2485                2490                2495
```

<210> 47
<211> 561
<212> PRT

<213> Homo sapiens

<400> 47

```
Leu Gly Phe Ser Leu Pro Pro His Leu Leu Phe Arg Pro Arg Leu Asp
1           5               10              15
Leu Gln Phe Leu Gln Arg Phe Leu Gln Ile Leu Lys Val Leu Phe Pro
        20              25              30
Ser Trp Ser Ser Gln Asn Ala Leu Met Phe Leu Thr Leu Leu Cys Leu
        35              40              45
Thr Leu Leu Gly Asp Phe Asp Gln Phe Thr Cys Asn Leu Leu Tyr Val
    50              55              60
Ser Trp Arg Lys Asp Leu Thr Glu His Leu His Arg Leu Tyr Phe Arg
65              70              75              80
Gly Arg Ala Tyr Tyr Thr Leu Asn Val Leu Arg Asp Asp Ile Asp Asn
            85              90              95
Pro Asp Gln Arg Ile Ser Gln Asp Val Glu Arg Phe Cys Arg Gln Leu
            100             105             110
Ser Ser Met Ala Ser Lys Leu Ile Ile Ser Pro Phe Thr Leu Val Tyr
    115             120             125
Tyr Thr Gln Cys Phe Gln Ser Thr Gly Trp Leu Gly Pro Val Ser
    130             135             140
Ile Phe Gly Tyr Phe Ile Leu Gly Thr Val Val Asn Lys Thr Leu Met
145             150             155             160
Gly Pro Ile Val Met Lys Leu Val His Gln Glu Lys Leu Glu Gly Asp
            165             170             175
Phe Arg Phe Lys His Met Gln Ile Arg Val Asn Ala Glu Pro Ala Ala
            180             185             190
Phe Tyr Arg Ala Gly His Val Glu His Met Arg Thr Asp Arg Arg Leu
            195             200             205
Gln Arg Leu Leu Gln Thr Gln Arg Glu Leu Met Ser Lys Glu Leu Trp
    210             215             220
Leu Tyr Ile Gly Ile Asn Thr Phe Asp Tyr Leu Gly Ser Ile Leu Ser
225             230             235             240
Tyr Val Val Ile Ala Ile Pro Ile Phe Ser Gly Val Tyr Gly Asp Leu
            245             250             255
Ser Pro Ala Glu Leu Ser Thr Leu Val Ser Lys Asn Ala Phe Val Cys
            260             265             270
Ile Tyr Leu Ile Ser Cys Phe Thr Gln Leu Ile Asp Leu Ser Thr Thr
    275             280             285
Leu Ser Asp Val Ala Gly Tyr Thr His Arg Ile Gly Gln Leu Arg Glu
    290             295             300
Thr Leu Leu Asp Met Ser Leu Lys Ser Gln Asp Cys Glu Ile Leu Gly
305             310             315             320
Glu Ser Glu Trp Gly Leu Asp Thr Pro Pro Gly Trp Pro Ala Ala Glu
            325             330             335
Pro Ala Asp Thr Ala Phe Leu Leu Glu Arg Val Ser Ile Ser Ala Pro
            340             345             350
Ser Ser Asp Lys Pro Leu Ile Lys Asp Leu Ser Leu Lys Ile Ser Glu
    355             360             365
Gly Gln Ser Leu Leu Ile Thr Gly Asn Thr Gly Thr Gly Lys Thr Ser
    370             375             380
Leu Leu Arg Val Leu Gly Gly Leu Trp Thr Ser Thr Arg Gly Ser Val
385             390             395             400
Gln Met Leu Thr Asp Phe Gly Pro His Gly Val Leu Phe Leu Pro Gln
            405             410             415
Lys Pro Phe Phe Thr Asp Gly Thr Leu Arg Glu Gln Val Ile Tyr Pro
            420             425             430
Leu Lys Glu Val Tyr Pro Asp Ser Gly Ser Ala Asp Asp Glu Arg Ile
    435             440             445
Leu Arg Phe Leu Glu Leu Ala Gly Leu Ser Asn Leu Val Ala Arg Thr
    450             455             460
Glu Gly Leu Asp Gln Gln Val Asp Trp Asn Trp Tyr Asp Val Leu Ser
465             470             475             480
```

Pro Gly Glu Met Gln Arg Leu Ser Phe Ala Arg Leu Phe Tyr Leu Gln
            485   490   495
Pro Lys Tyr Ala Val Leu Asp Glu Ala Thr Ser Ala Leu Thr Glu Glu
            500   505   510
Val Glu Ser Glu Leu Tyr Arg Ile Gly Gln Gln Leu Gly Met Thr Phe
            515   520   525
Ile Ser Val Gly His Arg Gln Ser Leu Glu Lys Phe His Ser Leu Val
            530   535   540
Leu Lys Leu Cys Gly Gly Gly Arg Trp Glu Leu Met Arg Ile Lys Val
545   550   555   560
Glu

<210> 48
<211> 421
<212> PRT
<213> Homo sapiens

<400> 48
Met Ala Ala Thr Leu Ile Leu Glu Pro Ala Gly Arg Cys Cys Trp Asp
1   5   10   15
Glu Pro Val Arg Ile Ala Val Arg Gly Leu Ala Pro Glu Gln Pro Val
            20   25   30
Thr Leu Arg Ala Ser Leu Arg Asp Glu Lys Gly Ala Leu Phe Gln Ala
            35   40   45
His Ala Arg Tyr Arg Ala Asp Thr Leu Gly Glu Leu Asp Leu Glu Arg
            50   55   60
Ala Pro Ala Leu Gly Gly Ser Phe Ala Gly Leu Glu Pro Met Gly Leu
65   70   75   80
Leu Trp Ala Leu Glu Pro Glu Lys Pro Leu Val Arg Leu Val Lys Arg
                85   90   95
Asp Val Arg Thr Pro Leu Ala Val Glu Leu Glu Val Leu Asp Gly His
            100   105   110
Asp Pro Asp Pro Gly Arg Leu Leu Cys Arg Val Arg His Glu Arg Tyr
            115   120   125
Phe Leu Pro Pro Gly Val Arg Arg Glu Pro Val Arg Ala Gly Arg Val
            130   135   140
Arg Gly Thr Leu Phe Leu Pro Pro Glu Pro Gly Pro Phe Pro Gly Ile
145   150   155   160
Val Asp Met Phe Gly Thr Gly Gly Gly Leu Leu Glu Tyr Arg Ala Ser
                165   170   175
Leu Leu Ala Gly Lys Gly Phe Ala Val Met Ala Leu Ala Tyr Tyr Asn
            180   185   190
Tyr Glu Asp Leu Pro Lys Thr Met Glu Thr Leu His Leu Glu Tyr Phe
            195   200   205
Glu Glu Ala Val Asn Tyr Leu Leu Ser His Pro Glu Val Lys Gly Pro
            210   215   220
Gly Val Gly Leu Leu Gly Ile Ser Lys Gly Gly Glu Leu Cys Leu Ser
225   230   235   240
Met Ala Ser Phe Leu Lys Gly Ile Thr Ala Ala Val Val Ile Asn Gly
                245   250   255
Ser Val Ala Asn Val Gly Gly Thr Leu Arg Tyr Lys Gly Glu Thr Leu
            260   265   270
Pro Pro Val Gly Val Asn Arg Asn Arg Ile Lys Val Thr Lys Asp Gly
            275   280   285
Tyr Ala Asp Ile Val Asp Val Leu Asn Ser Pro Leu Glu Gly Pro Asp
            290   295   300
Gln Lys Ser Phe Ile Pro Val Glu Arg Ala Glu Ser Thr Phe Leu Phe
305   310   315   320
Leu Val Gly Gln Asp Asp His Asn Trp Lys Ser Glu Phe Tyr Ala Asn
                325   330   335
Glu Ala Cys Lys Arg Leu Gln Ala His Gly Arg Arg Lys Pro Gln Ile
            340   345   350

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```
Ile Cys Tyr Pro Glu Thr Gly His Tyr Ile Glu Pro Pro Tyr Phe Pro
    355                 360             365
Leu Cys Arg Ala Ser Leu His Ala Leu Val Gly Ser Pro Ile Ile Trp
    370             375             380
Gly Gly Glu Pro Arg Ala His Ala Met Ala Gln Val Asp Ala Trp Lys
385             390             395                 400
Gln Leu Gln Thr Phe Phe His Lys His Leu Gly Gly His Glu Gly Thr
            405             410             415
Ile Pro Ser Lys Val
            420
```

<210> 49
<211> 785
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (196)...(198)
<223> Xaa = Any Amino Acid

<400> 49
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Met Pro Lys Ala Pro Lys Gln Gln Pro Pro Glu Pro Glu Trp Ile Gly
 1           5               10              15
Asp Gly Glu Ser Thr Ser Pro Ser Glu Ala Gly Arg Gln Gly Arg
        20              25              30
Asn Glu Gln Arg Gly Lys Arg Glu Glu Thr Ala Arg Phe Phe Glu Glu
    35              40              45
Leu Ala Val Glu Asp Lys Gln Ala Gly Glu Glu Glu Lys Val Leu Lys
    50              55              60
Glu Lys Glu Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Lys Lys
65              70              75              80
Lys Arg Asp Thr Arg Lys Gly Arg Arg Lys Lys Asp Val Asp Asp Asp
            85              90              95
Gly Glu Glu Lys Glu Leu Met Glu Arg Leu Lys Lys Leu Ser Val Pro
            100             105             110
Thr Ser Asp Glu Glu Asp Glu Val Pro Ala Pro Lys Pro Arg Gly Gly
    115             120             125
Lys Lys Thr Lys Gly Gly Asn Val Phe Ala Ala Leu Ile Gln Asp Gln
    130             135             140
Ser Glu Glu Glu Glu Glu Glu Glu Lys His Pro Pro Lys Pro Ala Lys
145             150             155             160
Pro Glu Lys Asn Arg Ile Asn Lys Ala Val Ser Glu Glu Gln Gln Pro
            165             170             175
Ala Leu Lys Gly Lys Lys Gly Lys Glu Glu Lys Ser Lys Gly Lys Ala
            180             185             190
Lys Val Arg Xaa Xaa Xaa Phe Phe Leu Pro Ser Gln Met Glu Tyr Glu
    195             200             205
Arg Gln Val Ala Ser Leu Lys Ala Ala Asn Ala Ala Glu Asn Asp Phe
    210             215             220
Ser Val Ser Gln Ala Glu Met Ser Ser Arg Gln Ala Met Leu Glu Asn
225             230             235             240
Ala Ser Asp Ile Lys Leu Glu Lys Phe Ser Ile Ser Ala His Gly Lys
            245             250             255
Glu Leu Phe Val Asn Ala Asp Leu Tyr Ile Val Ala Gly Arg Arg Tyr
            260             265             270
Gly Leu Val Gly Pro Asn Gly Lys Gly Lys Thr Thr Leu Leu Lys His
            275             280             285
Ile Ala Asn Arg Ala Leu Ser Ile Pro Pro Asn Ile Asp Val Leu Leu
    290             295             300
Cys Glu Gln Glu Val Val Ala Asp Glu Thr Pro Ala Val Gln Ala Val
305             310             315             320
Leu Arg Ala Asp Thr Lys Arg Leu Lys Leu Leu Glu Glu Glu Arg Arg
```

```
                        325                 330                      335
Leu Gln Gly Gln Leu Glu Gln Gly Asp Asp Thr Ala Ala Glu Arg Leu
             340                 345                 350
Glu Lys Val Tyr Glu Glu Leu Arg Ala Thr Gly Ala Ala Ala Ala Glu
             355                 360                 365
Ala Lys Ala Arg Arg Ile Leu Ala Gly Leu Gly Phe Asp Pro Glu Met
             370                 375                 380
Gln Asn Arg Pro Thr Gln Lys Phe Ser Gly Gly Trp Arg Met Arg Val
385                 390                 395                 400
Ser Leu Ala Arg Ala Leu Phe Met Glu Pro Thr Leu Leu Met Leu Asp
             405                 410                 415
Glu Pro Thr Asn His Leu Asp Leu Asn Ala Val Ile Trp Leu Asn Asn
             420                 425                 430
Tyr Leu Gln Gly Trp Arg Lys Thr Leu Leu Ile Val Ser His Asp Gln
             435                 440                 445
Gly Phe Leu Asp Asp Val Cys Thr Asp Ile Ile His Leu Asp Ala Gln
             450                 455                 460
Arg Leu His Tyr Tyr Arg Gly Asn Tyr Met Thr Phe Lys Lys Met Tyr
465                 470                 475                 480
Gln Gln Lys Gln Lys Glu Leu Leu Lys Gln Tyr Glu Lys Gln Glu Lys
             485                 490                 495
Lys Leu Lys Glu Leu Lys Ala Gly Gly Lys Ser Thr Lys Gln Ala Glu
             500                 505                 510
Lys Gln Thr Lys Glu Ala Leu Thr Arg Lys Gln Gln Lys Cys Arg Arg
             515                 520                 525
Lys Asn Gln Asp Glu Glu Ser Gln Glu Ala Pro Glu Leu Leu Lys Arg
             530                 535                 540
Pro Lys Glu Tyr Thr Val Arg Phe Thr Phe Pro Asp Pro Pro Leu
545                 550                 555                 560
Ser Pro Pro Val Leu Gly Leu His Gly Val Thr Phe Gly Tyr Gln Gly
             565                 570                 575
Gln Lys Pro Leu Phe Lys Asn Leu Asp Phe Gly Ile Asp Met Asp Ser
             580                 585                 590
Arg Ile Cys Ile Val Gly Pro Asn Gly Val Gly Lys Ser Thr Leu Leu
             595                 600                 605
Leu Leu Leu Thr Gly Lys Leu Thr Pro Thr His Gly Glu Met Arg Lys
             610                 615                 620
Asn His Arg Leu Lys Ile Gly Phe Phe Asn Gln Gln Tyr Ala Glu Gln
625                 630                 635                 640
Leu Arg Met Glu Glu Thr Pro Thr Glu Tyr Leu Gln Arg Gly Phe Asn
             645                 650                 655
Leu Pro Tyr Gln Asp Ala Arg Lys Cys Leu Gly Arg Phe Gly Leu Glu
             660                 665                 670
Ser His Ala His Thr Ile Gln Ile Cys Lys Leu Ser Gly Gly Gln Lys
             675                 680                 685
Ala Arg Val Val Phe Ala Glu Leu Ala Cys Arg Glu Pro Asp Val Leu
             690                 695                 700
Ile Leu Asp Glu Pro Thr Asn Asn Leu Asp Ile Glu Ser Ile Asp Ala
705                 710                 715                 720
Leu Gly Glu Ala Ile Asn Glu Tyr Lys Gly Ala Val Ile Val Val Ser
             725                 730                 735
His Asp Ala Arg Leu Ile Thr Glu Thr Asn Cys Gln Leu Trp Val Val
             740                 745                 750
Glu Glu Gln Ser Val Ser Gln Ile Asp Gly Asp Phe Glu Asp Tyr Lys
             755                 760                 765
Arg Glu Val Leu Glu Ala Leu Gly Glu Val Met Val Ser Arg Pro Arg
             770                 . 775                 780
Glu
785
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<210> 50
<211> 405
<212> PRT

<213> Homo sapiens

<400> 50
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Lys Met Leu Ser Ser Phe Leu Ser Pro Gln Asn Gly Thr Trp Ala Asp
1               5               10              15
Thr Phe Ser Leu Leu Leu Ala Leu Ala Val Ala Leu Tyr Leu Gly Tyr
            20              25              30
Tyr Trp Ala Cys Val Leu Gln Arg Pro Arg Leu Val Ala Gly Pro Gln
        35              40              45
Phe Leu Ala Phe Leu Glu Pro His Cys Ser Ile Thr Thr Glu Thr Phe
    50              55              60
Tyr Pro Thr Leu Trp Cys Phe Glu Gly Arg Leu Gln Ser Ile Phe Gln
65              70              75              80
Val Leu Leu Gln Ser Gln Pro Leu Val Leu Tyr Gln Ser Asp Ile Leu
            85              90              95
Gln Thr Pro Asp Gly Gly Gln Leu Leu Asp Trp Ala Lys Gln Pro
            100             105             110
Asp Ser Ser Gln Asp Pro Asp Pro Thr Thr Gln Pro Ile Val Leu Leu
    115             120             125
Leu Pro Gly Ile Thr Gly Ser Ser Gln Asp Thr Tyr Val Leu His Leu
    130             135             140
Val Asn Gln Ala Leu Arg Asp Gly Tyr Gln Ala Val Val Phe Asn Asn
145             150             155             160
Arg Gly Cys Arg Gly Glu Glu Leu Arg Thr His Arg Ala Phe Cys Ala
            165             170             175
Ser Asn Thr Glu Asp Leu Glu Thr Val Val Asn His Ile Lys His Arg
            180             185             190
Tyr Pro Gln Ala Pro Leu Leu Ala Val Gly Ile Ser Phe Gly Gly Ile
    195             200             205
Leu Val Leu Asn His Leu Ala Gln Ala Arg Gln Ala Ala Gly Leu Val
    210             215             220
Ala Ala Leu Thr Leu Ser Ala Cys Trp Asp Ser Phe Glu Thr Thr Arg
225             230             235             240
Ser Leu Glu Thr Pro Leu Asn Ser Leu Leu Phe Asn Gln Pro Leu Thr
            245             250             255
Ala Gly Leu Cys Gln Leu Val Glu Arg Asn Arg Lys Val Ile Glu Lys
            260             265             270
Val Val Asp Ile Asp Phe Val Leu Gln Ala Arg Thr Ile Arg Gln Phe
            275             280             285
Asp Glu Arg Tyr Thr Ser Val Ala Phe Gly Tyr Gln Asp Cys Val Thr
    290             295             300
Tyr Tyr Lys Ala Ala Ser Pro Arg Thr Lys Ile Asp Ala Ile Arg Ile
305             310             315             320
Pro Val Leu Tyr Leu Ser Ala Ala Asp Asp Pro Phe Ser Pro Val Cys
            325             330             335
Ala Leu Pro Ile Gln Ala Ala Gln His Ser Pro Tyr Val Ala Leu Leu
            340             345             350
Ile Thr Ala Arg Gly Gly His Ile Gly Phe Leu Glu Gly Leu Leu Pro
            355             360             365
Trp Gln His Trp Tyr Met Ser Arg Leu Leu His Gln Tyr Ala Lys Ala
    370             375             380
Ile Phe Gln Asp Pro Glu Gly Leu Pro Asp Leu Arg Ala Leu Leu Pro
385             390             395             400
Ser Glu Asp Arg Asn
            405
```

<210> 51

<400> 51
000

<210> 52
<211> 284

<212> PRT
<213> Homo sapiens

<400> 52

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Leu Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly
1               5               10              15
Ser Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn
            20              25              30
Leu Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn Asp Thr Ser
        35              40              45
Pro His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu Pro Leu Gly
    50              55              60
Lys Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln
65              70              75              80
Tyr Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu
            85              90              95
Thr Leu Lys Val Lys Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu
        100             105             110
Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly
        115             120             125
Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn
    130             135             140
Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val
145             150             155             160
Leu Arg Leu Lys Pro Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp
            165             170             175
Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser
        180             185             190
Gln Met Glu Pro Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile
        195             200             205
Pro Phe Cys Ile Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu
    210             215             220
Arg Lys Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys Asp Val Ser Ile
225             230             235             240
His Cys Ala Lys Val Thr Leu Leu Val Pro Ile Pro Thr Gln Thr Thr
            245             250             255
Val Leu Gln Asp Tyr Ser Ser Tyr Gly Ser Pro Thr His Ala Leu Ser
        260             265             270
Leu Val Pro Lys Gln Asp Pro Tyr Gly Leu Met Arg
    275             280
```

<210> 53
<211> 442
<212> PRT
<213> Homo sapiens

<400> 53

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Met Ala Arg Gly Tyr Gly Ala Thr Val Ser Leu Val Leu Leu Gly Leu
1               5               10              15
Gly Leu Ala Leu Ala Val Ile Val Leu Ala Val Val Leu Ser Arg His
            20              25              30
Gln Ala Pro Cys Gly Pro Gln Ala Phe Ala His Ala Ala Val Ala Ala
        35              40              45
Asp Ser Lys Val Cys Ser Asp Ile Gly Arg Ala Ile Leu Gln Gln Gln
    50              55              60
Gly Ser Pro Val Asp Ala Thr Ile Ala Ala Leu Val Cys Thr Ser Val
65              70              75              80
Val Asn Pro Gln Ser Met Gly Leu Gly Gly Val Ile Phe Thr Ile
            85              90              95
Tyr Asn Val Thr Thr Gly Ala Gln Trp Ile Gly Val Pro Gly Glu Leu
        100             105             110
Arg Gly Tyr Ala Glu Ala His Arg Arg His Gly Arg Leu Pro Trp Ala
        115             120             125
```

```
Gln Leu Phe Gln Pro Thr Ile Ala Leu Leu Arg Gly Gly His Val Val
    130                 135                 140
Ala Pro Val Leu Ser Arg Phe Leu His Asn Ser Ile Leu Arg Pro Ser
145                 150                 155                 160
Leu Gln Ala Ser Thr Leu Arg Gln Leu Phe Phe Asn Gly Thr Glu Pro
                165                 170                 175
Leu Arg Pro Gln Asp Pro Leu Pro Trp Pro Ala Leu Ala Thr Thr Leu
            180                 185                 190
Glu Thr Val Ala Thr Glu Gly Val Glu Val Phe Tyr Thr Gly Arg Leu
        195                 200                 205
Gly Gln Met Leu Val Glu Asp Ile Ala Lys Glu Gly Ser Gln Leu Thr
    210                 215                 220
Leu Gln Asp Leu Ala Lys Phe Gln Pro Glu Val Val Asp Ala Leu Glu
225                 230                 235                 240
Val Pro Leu Gly Asp Tyr Thr Leu Tyr Ser Pro Pro Pro Ala Gly
                245                 250                 255
Gly Ala Ile Leu Ser Phe Ile Leu Asn Val Leu Arg Gly Phe Asn Phe
            260                 265                 270
Ser Thr Glu Ser Met Ala Arg Pro Glu Gly Arg Val Asn Val Tyr His
        275                 280                 285
His Leu Val Glu Thr Leu Lys Phe Ala Lys Gly Gln Arg Trp Arg Leu
    290                 295                 300
Gly Asp Pro Arg Ser His Pro Lys Leu Gln Asn Ala Ser Arg Asp Leu
305                 310                 315                 320
Leu Gly Glu Thr Leu Ala Gln Leu Ile Arg Gln Gln Ile Asp Gly Arg
                325                 330                 335
Gly Asp His Gln Leu Ser His Tyr Ser Leu Ala Glu Ala Trp Gly His
            340                 345                 350
Gly Thr Gly Thr Ser His Val Ser Val Leu Gly Glu Asp Gly Ser Ala
        355                 360                 365
Val Ala Ala Thr Ser Thr Ile Asn Thr Pro Phe Gly Ala Met Val Tyr
    370                 375                 380
Ser Pro Arg Thr Gly Ile Ile Leu Asn Asn Glu Leu Leu Asp Leu Cys
385                 390                 395                 400
Glu Arg Cys Pro Arg Gly Ser Gly Thr Thr Pro Ser Pro Val Glu Thr
                405                 410                 415
Gly Trp Val Glu Leu Pro Glu Gly Ala Gly Pro Gln Phe Gln Ala Ser
            420                 425                 430
Val Pro His Pro Pro Trp Cys Pro Pro Ser
    435                 440
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```
<210> 54
<211> 1047
<212> PRT
<213> Homo sapiens

<400> 54
Met Ala Val Thr Leu Asp Lys Asp Ala Tyr Tyr Arg Arg Val Lys Arg
1               5                   10                  15
Leu Tyr Ser Asn Trp Arg Lys Gly Glu Asp Glu Tyr Ala Asn Val Asp
            20                  25                  30
Ala Ile Val Val Ser Val Gly Val Asp Glu Glu Ile Val Tyr Ala Lys
        35                  40                  45
Ser Thr Ala Leu Gln Thr Trp Leu Phe Gly Tyr Glu Leu Thr Asp Thr
    50                  55                  60
Ile Met Val Phe Cys Asp Asp Lys Ile Ile Phe Met Ala Ser Lys Lys
65                  70                  75                  80
Lys Val Glu Phe Leu Lys Gln Ile Ala Asn Thr Lys Gly Asn Glu Asn
                85                  90                  95
Ala Asn Gly Ala Pro Ala Ile Thr Leu Leu Ile Arg Glu Lys Asn Glu
            100                 105                 110
Ser Asn Lys Ser Ser Phe Asp Lys Met Ile Glu Ala Ile Lys Glu Ser
        115                 120                 125
```

Lys Asn Gly Lys Lys Ile Gly Val Phe Ser Lys Asp Lys Phe Pro Gly
130   135   140

Glu Phe Met Lys Ser Trp Asn Asp Cys Leu Asn Lys Glu Gly Phe Asp
145   150   155   160

Lys Ile Asp Ile Ser Ala Val Val Ala Tyr Thr Ile Ala Val Lys Glu
                165   170   175

Asp Gly Glu Leu Asn Leu Met Lys Lys Ala Ala Ser Ile Thr Ser Glu
            180   185   190

Val Phe Asn Lys Phe Phe Lys Glu Arg Val Met Glu Ile Val Asp Ala
        195   200   205

Asp Glu Lys Val Arg His Ser Lys Leu Ala Glu Ser Val Glu Lys Ala
    210   215   220

Ile Glu Glu Lys Lys Tyr Leu Ala Gly Ala Asp Pro Ser Thr Val Glu
225   230   235   240

Met Cys Tyr Pro Pro Ile Ile Gln Ser Gly Gly Asn Tyr Asn Leu Lys
            245   250   255

Phe Ser Val Val Ser Asp Lys Asn His Met His Phe Gly Ala Ile Thr
            260   265   270

Cys Ala Met Gly Ile Arg Phe Lys Ser Tyr Cys Ser Asn Leu Val Arg
        275   280   285

Thr Leu Met Val Asp Pro Ser Gln Glu Val Gln Glu Asn Tyr Asn Phe
    290   295   300

Leu Leu Gln Leu Gln Glu Glu Leu Leu Lys Glu Leu Arg His Gly Val
305   310   315   320

Lys Ile Cys Asp Val Tyr Asn Ala Val Met Asp Val Val Lys Lys Gln
            325   330   335

Lys Pro Glu Leu Leu Asn Lys Ile Thr Lys Asn Leu Gly Phe Gly Met
            340   345   350

Gly Ile Glu Phe Arg Glu Gly Ser Leu Val Ile Asn Ser Lys Asn Gln
        355   360   365

Tyr Lys Leu Lys Lys Gly Met Val Phe Ser Ile Asn Leu Gly Phe Ser
    370   375   380

Asp Leu Thr Asn Lys Glu Gly Lys Lys Pro Glu Glu Lys Thr Tyr Ala
385   390   395   400

Leu Phe Ile Gly Asp Thr Val Leu Val Asp Glu Asp Gly Pro Ala Thr
            405   410   415

Val Leu Thr Ser Val Lys Lys Lys Val Lys Asn Val Gly Ile Phe Leu
            420   425   430

Lys Asn Glu Asp Glu Glu Glu Glu Glu Glu Lys Asp Glu Ala Glu
            435   440   445

Asp Leu Leu Gly Arg Gly Ser Arg Ala Ala Leu Leu Thr Glu Arg Thr
    450   455   460

Arg Asn Glu Met Thr Ala Glu Glu Lys Arg Arg Ala His Gln Lys Glu
465   470   475   480

Leu Ala Ala Gln Leu Asn Glu Glu Ala Lys Arg Arg Leu Thr Glu Gln
            485   490   495

Lys Gly Glu Gln Gln Ile Gln Lys Ala Arg Lys Ser Asn Val Ser Tyr
        500   505   510

Lys Asn Pro Ser Leu Met Pro Lys Glu Pro His Ile Arg Glu Met Lys
    515   520   525

Ile Tyr Ile Asp Lys Lys Tyr Glu Thr Val Ile Met Pro Val Phe Gly
    530   535   540

Ile Ala Thr Pro Phe His Ile Ala Thr Ile Lys Asn Ile Ser Met Ser
545   550   555   560

Val Glu Gly Asp Tyr Thr Tyr Leu Arg Ile Asn Phe Tyr Cys Pro Gly
            565   570   575

Ser Ala Leu Gly Arg Asn Glu Gly Asn Ile Phe Pro Asn Pro Glu Ala
        580   585   590

Thr Phe Val Lys Glu Ile Thr Tyr Arg Ala Ser Asn Ile Lys Ala Pro
    595   600   605

Gly Glu Gln Thr Val Pro Ala Leu Asn Leu Gln Asn Ala Phe Arg Ile
    610   615   620

Ile Lys Glu Val Gln Lys Arg Tyr Lys Thr Arg Glu Ala Glu Glu Lys

625   630   635   640
Glu Lys Glu Gly Ile Val Lys Gln Asp Ser Leu Val Ile Asn Leu Asn
                        645   650   655
Arg Ser Asn Pro Lys Leu Lys Asp Leu Tyr Ile Arg Pro Asn Ile Ala
                        660   665   670
Gln Lys Arg Met Gln Gly Ser Leu Glu Ala His Val Asn Gly Phe Arg
                        675   680   685
Phe Thr Ser Val Arg Gly Asp Lys Val Asp Ile Leu Tyr Asn Asn Ile
            690   695   700
Lys His Ala Leu Phe Gln Pro Cys Asp Gly Glu Met Ile Ile Val Leu
705   710   715   720
His Phe His Leu Lys Asn Ala Ile Met Phe Gly Lys Lys Arg His Thr
                        725   730   735
Asp Val Gln Phe Tyr Thr Glu Val Gly Glu Ile Thr Thr Asp Leu Gly
                        740   745   750
Lys His Gln His Met His Asp Arg Asp Asp Leu Tyr Ala Glu Gln Met
                        755   760   765
Glu Arg Glu Met Arg His Lys Leu Lys Thr Ala Phe Lys Asn Phe Ile
            770   775   780
Glu Lys Val Glu Ala Leu Thr Lys Glu Glu Leu Glu Phe Glu Val Pro
785   790   795   800
Phe Arg Asp Leu Gly Phe Asn Gly Ala Pro Tyr Arg Ser Thr Cys Leu
                        805   810   815
Leu Gln Pro Thr Ser Ser Ala Leu Val Asn Ala Thr Glu Trp Pro Pro
                        820   825   830
Phe Val Val Thr Leu Asp Glu Val Glu Leu Ile His Phe Glu Arg Val
            835   840   845
Gln Phe His Leu Lys Asn Phe Asp Met Val Ile Val Tyr Lys Asp Tyr
            850   855   860
Ser Lys Lys Val Thr Met Ile Asn Ala Ile Pro Val Ala Ser Leu Asp
865   870   875   880
Pro Ile Lys Glu Trp Leu Asn Ser Cys Asp Leu Lys Tyr Thr Glu Gly
                        885   890   895
Val Gln Ser Leu Asn Trp Thr Lys Ile Met Lys Thr Ile Val Asp Asp
                        900   905   910
Pro Glu Gly Phe Phe Glu Gln Gly Gly Trp Ser Phe Leu Glu Pro Glu
            915   920   925
Gly Glu Gly Ser Asp Ala Glu Glu Gly Asp Ser Glu Ser Glu Ile Glu
            930   935   940
Asp Glu Thr Phe Asn Pro Ser Glu Asp Asp Tyr Glu Glu Glu Glu Glu
945   950   955   960
Asp Ser Asp Glu Asp Tyr Ser Ser Glu Ala Glu Glu Ser Asp Tyr Ser
                        965   970   975
Lys Glu Ser Leu Gly Ser Glu Glu Ser Gly Lys Asp Trp Asp Glu
            980   985   990
Leu Glu Glu Glu Ala Arg Lys Ala Asp Arg Glu Ser Arg Tyr Glu Glu
            995   1000   1005
Glu Glu Glu Gln Ser Arg Ser Met Ser Arg Lys Arg Lys Ala Ser Val
            1010   1015   1020
His Ser Ser Gly Arg Gly Ser Asn Arg Gly Ser Arg His Ser Ser Ala
1025   1030   1035   1040
Pro Pro Lys Lys Lys Arg Lys
            1045

<210> 55
<211> 1530
<212> PRT
<213> Homo sapiens

<400> 55
Ser Pro Ile Leu Cys Gly Ala Ala Thr Ala Leu Asn Cys Ser Leu Cys
1   5   10   15
Pro Gln Asp Ser Asn Leu Ser Val His Thr Glu Asn Pro Asp Leu Thr

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                    20                      25                      30
Pro Cys Phe Gln Asn Ser Leu Leu Ala Trp Val Pro Cys Ile Tyr Leu
            35                      40                      45
Trp Val Ala Leu Pro Cys Tyr Leu Leu Tyr Leu Arg His His Cys Arg
        50                      55                      60
Gly Tyr Ile Ile Leu Ser His Leu Ser Lys Leu Lys Met Val Leu Gly
65                      70                      75                      80
Val Leu Leu Trp Cys Val Ser Trp Ala Asp Leu Phe Tyr Ser Phe His
                85                      90                      95
Gly Leu Val His Gly Arg Ala Pro Ala Pro Val Phe Phe Val Thr Pro
                100                     105                     110
Leu Val Val Gly Val Thr Met Leu Leu Ala Thr Leu Leu Ile Gln Tyr
            115                     120                     125
Glu Arg Leu Gln Gly Val Gln Ser Ser Gly Val Leu Ile Ile Phe Trp
        130                     135                     140
Phe Leu Cys Val Val Cys Ala Ile Val Pro Phe Arg Ser Lys Ile Leu
145                     150                     155                     160
Leu Ala Lys Ala Glu Gly Glu Ile Ser Asp Pro Phe Arg Phe Thr Thr
                165                     170                     175
Phe Tyr Ile His Phe Ala Leu Val Leu Ser Ala Leu Ile Leu Ala Cys
                180                     185                     190
Phe Arg Glu Lys Pro Pro Phe Phe Ser Ala Lys Asn Val Asp Pro Asn
                195                     200                     205
Pro Tyr Pro Glu Thr Ser Ala Gly Phe Leu Ser Arg Leu Phe Phe Trp
        210                     215                     220
Trp Phe Thr Lys Met Ala Ile Tyr Gly Tyr Arg His Pro Leu Glu Glu
225                     230                     235                     240
Lys Asp Leu Trp Ser Leu Lys Glu Glu Asp Arg Ser Gln Met Val Val
                245                     250                     255
Gln Gln Leu Leu Glu Ala Trp Arg Lys Gln Glu Lys Gln Thr Ala Arg
            260                     265                     270
His Lys Ala Ser Ala Ala Pro Gly Lys Asn Ala Ser Gly Glu Asp Glu
            275                     280                     285
Val Leu Leu Gly Ala Arg Pro Arg Pro Arg Lys Pro Ser Phe Leu Lys
        290                     295                     300
Ala Leu Leu Ala Thr Phe Gly Ser Ser Phe Leu Ile Ser Ala Cys Phe
305                     310                     315                     320
Lys Leu Ile Gln Asp Leu Leu Ser Phe Ile Asn Pro Gln Leu Leu Ser
            325                     330                     335
Ile Leu Ile Arg Phe Ile Ser Asn Pro Met Ala Pro Ser Trp Trp Gly
            340                     345                     350
Phe Leu Val Ala Gly Leu Met Phe Leu Cys Ser Met Met Gln Ser Leu
        355                     360                     365
Ile Leu Gln His Tyr Tyr His Tyr Ile Phe Val Thr Gly Val Lys Phe
    370                     375                     380
Arg Thr Gly Ile Met Gly Val Ile Tyr Arg Lys Ala Leu Val Ile Thr
385                     390                     395                     400
Asn Ser Val Lys Arg Ala Ser Thr Val Gly Glu Ile Val Asn Leu Met
                405                     410                     415
Ser Val Asp Ala Gln Arg Phe Met Asp Leu Ala Pro Phe Leu Asn Leu
            420                     425                     430
Leu Trp Ser Ala Pro Leu Gln Ile Ile Leu Ala Ile Tyr Phe Leu Trp
        435                     440                     445
Gln Asn Leu Gly Pro Ser Val Leu Ala Gly Val Ala Phe Met Val Leu
    450                     455                     460
Leu Ile Pro Leu Asn Gly Ala Val Ala Val Lys Met Arg Ala Phe Gln
465                     470                     475                     480
Val Lys Gln Met Lys Leu Lys Asp Ser Arg Ile Lys Leu Met Ser Glu
                485                     490                     495
Ile Leu Asn Gly Ile Lys Val Leu Lys Leu Tyr Ala Trp Glu Pro Ser
                500                     505                     510
Phe Leu Lys Gln Val Glu Gly Ile Arg Gln Gly Glu Leu Gln Leu Leu
        515                     520                     525
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Arg Thr Ala Ala Tyr Leu His Thr Thr Thr Thr Phe Thr Trp Met Cys
·530   535   540
Ser Pro Phe Leu Val Thr Leu Ile Thr Leu Trp Val Tyr Val Tyr Val
545   550   555   560
Asp Pro Asn Asn Val Leu Asp Ala Glu Lys Ala Phe Val Ser Val Ser
              565   570   575
Leu Phe Asn Ile Leu Arg Leu Pro Leu Asn Met Leu Pro Gln Leu Ile
          580   585   590
Ser Asn Leu Thr Gln Ala Ser Val Ser Leu Lys Arg Ile Gln Gln Phe
          595   600   605
Leu Ser Gln Glu Glu Leu Asp Pro Gln Ser Val Glu Arg Lys Thr Ile
      610   615   620
Ser Pro Gly Tyr Ala Ile Thr Ile His Ser Gly Thr Phe Thr Trp Ala
625   630   635   640
Gln Asp Leu Pro Pro Thr Leu His Ser Leu Asp Ile Gln Val Pro Lys
              645   650   655
Gly Ala Leu Val Ala Val Val Gly Pro Val Gly Cys Gly Lys Ser Ser
          660   665   670
Leu Val Ser Ala Leu Leu Gly Glu Met Glu Lys Leu Glu Gly Lys Val
          675   680   685
His Met Lys Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln
      690   695   700
Asn Cys Thr Leu Gln Glu Asn Val Leu Phe Gly Lys Ala Leu Asn Pro
705   710   715   720
Lys Arg Tyr Gln Gln Thr Leu Glu Ala Cys Ala Leu Leu Ala Asp Leu
          725   730   735
Glu Met Leu Pro Gly Gly Asp Gln Thr Glu Ile Gly Glu Lys Gly Ile
          740   745   750
Asn Leu Ser Gly Gly Gln Arg Gln Arg Val Ser Leu Ala Arg Ala Val
          755   760   765
Tyr Ser Asp Ala Asp Ile Phe Leu Leu Asp Asp Pro Leu Ser Ala Val
      770   775   780
Asp Ser His Val Ala Lys His Ile Phe Asp His Val Ile Gly Pro Glu
785   790   795   800
Gly Val Leu Ala Gly Lys Thr Arg Val Leu Val Thr His Gly Ile Ser
          805   810   815
Phe Leu Pro Gln Thr Asp Phe Ile Ile Val Leu Ala Asp Gly Gln Val
          820   825   830
Ser Glu Met Gly Pro Tyr Pro Ala Leu Leu Gln Arg Asn Gly Ser Phe
      835   840   845
Ala Asn Phe Leu Cys Asn Tyr Ala Pro Asp Glu Asp Gln Gly His Leu
      850   855   860
Glu Asp Ser Trp Thr Ala Leu Glu Gly Ala Glu Asp Lys Glu Ala Leu
865   870   875   880
Leu Ile Glu Asp Thr Leu Ser Asn His Thr Asp Leu Thr Asp Asn Asp
          885   890   895
Pro Val Thr Tyr Val Val Gln Lys Gln Phe Met Arg Gln Leu Ser Ala
          900   905   910
Leu Ser Ser Asp Gly Glu Gly Gln Gly Arg Pro Val Pro Arg Arg His
      915   920   925
Leu Gly Pro Ser Glu Lys Val Gln Val Thr Glu Ala Lys Ala Asp Gly
      930   935   940
Ala Leu Thr Gln Glu Glu Lys Ala Ala Ile Gly Thr Val Glu Leu Ser
945   950   955   960
Val Phe Trp Asp Tyr Ala Lys Ala Val Gly Leu Cys Thr Thr Leu Ala
              965   970   975
Ile Cys Leu Leu Tyr Val Gly Gln Ser Ala Ala Ala Ile Gly Ala Asn
          980   985   990
Val Trp Leu Ser Ala Trp Thr Asn Asp Ala Met Ala Asp Ser Arg Gln
          995   1000   1005
Asn Asn Thr Ser Leu Arg Leu Gly Val Tyr Ala Ala Leu Gly Ile Leu
      1010   1015   1020
Gln Gly Phe Leu Val Met Leu Ala Ala Met Ala Met Ala Ala Gly Gly

```
1025                1030                1035                1040
Ile Gln Ala Ala Arg Val Leu His Gln Ala Leu Leu His Asn Lys Ile
               1045                1050                1055
Arg Ser Pro Gln Ser Phe Phe Asp Thr Thr Pro Ser Gly Arg Ile Leu
               1060                1065                1070
Asn Cys Phe Ser Lys Asp Ile Tyr Val Val Asp Glu Val Leu Ala Pro
          1075                1080                1085
Val Ile Leu Met Leu Leu Asn Ser Phe Phe Asn Ala Ile Ser Thr Leu
     1090                1095                1100
Val Val Ile Met Ala Ser Thr Pro Leu Phe Thr Val Val Ile Leu Pro
1105                1110                1115                1120
Leu Ala Val Leu Tyr Thr Leu Val Gln Arg Phe Tyr Ala Ala Thr Ser
               1125                1130                1135
Arg Gln Leu Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Ile Tyr Ser
          1140                1145                1150
His Phe Ser Glu Thr Val Thr Gly Ala Ser Val Ile Arg Ala Tyr Asn
          1155                1160                1165
Arg Ser Arg Asp Phe Glu Ile Ile Ser Asp Thr Lys Val Asp Ala Asn
     1170                1175                1180
Gln Arg Ser Cys Tyr Pro Tyr Ile Ile Ser Asn Arg Trp Leu Ser Ile
1185                1190                1195                1200
Gly Val Glu Phe Val Gly Asn Cys Val Val Leu Phe Ala Ala Leu Phe
               1205                1210                1215
Ala Val Ile Gly Arg Ser Ser Leu Asn Pro Gly Leu Val Gly Leu Ser
          1220                1225                1230
Val Ser Tyr Ser Leu Gln Val Thr Phe Ala Leu Asn Trp Met Ile Arg
          1235                1240                1245
Met Met Ser Asp Leu Glu Ser Asn Ile Val Ala Val Glu Arg Val Lys
     1250                1255                1260
Glu Tyr Ser Lys Thr Glu Thr Glu Ala Pro Trp Val Val Glu Gly Ser
1265                1270                1275                1280
Arg Pro Pro Glu Gly Trp Pro Pro Arg Gly Glu Val Glu Phe Arg Asn
               1285                1290                1295
Tyr Ser Val Arg Tyr Arg Pro Gly Leu Asp Leu Val Leu Arg Asp Leu
          1300                1305                1310
Ser Leu His Val His Gly Gly Glu Lys Val Gly Ile Val Gly Arg Thr
          1315                1320                1325
Gly Ala Gly Lys Ser Ser Met Thr Leu Cys Leu Phe Arg Ile Leu Glu
     1330                1335                1340
Ala Ala Lys Gly Glu Ile Arg Ile Asp Gly Leu Asn Val Ala Asp Ile
1345                1350                1355                1360
Gly Leu His Asp Leu Arg Ser Gln Leu Thr Ile Ile Pro Gln Asp Pro
               1365                1370                1375
Ile Leu Phe Ser Gly Thr Leu Arg Met Asn Leu Asp Pro Phe Gly Ser
          1380                1385                1390
Tyr Ser Glu Glu Asp Ile Trp Trp Ala Leu Glu Leu Ser His Leu His
          1395                1400                1405
Thr Phe Val Ser Ser Gln Pro Ala Gly Leu Asp Phe Gln Cys Ser Glu
     1410                1415                1420
Gly Gly Glu Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu Ala
1425                1430                1435   ·            1440
Arg Ala Leu Leu Arg Lys Ser Arg Ile Leu Val Leu Asp Glu Ala Thr
               1445                1450                1455
Ala Ala Ile Asp Leu Glu Thr Asp Asn Leu Ile Gln Ala Thr Ile Arg
          1460                1465                1470
Thr Gln Phe Asp Thr Cys Thr Val Leu Thr Ile Ala His Arg Leu Asn
          1475                1480                1485
Thr Ile Met Asp Tyr Thr Arg Val Leu Val Leu Asp Lys Gly Val Val
     1490                1495                1500
Ala Glu Phe Asp Ser Pro Ala Asn Leu Ile Ala Ala Arg Gly Ile Phe
1505                1510                1515                1520
Tyr Gly Met Ala Arg Asp Ala Gly Leu Ala
               1525                1530
```

<210> 56
<211> 533
<212> PRT
<213> Homo sapiens

<400> 56

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Pro Tyr Cys Ser Leu Pro Arg Ala Pro Leu His Gly Phe Ile Leu Gly
 1               5                  10                  15
Gln Thr Ser Thr Gln Pro Gly Gly Ser Ile His Phe Gly Cys Asn Ala
            20                  25                  30
Gly Tyr Arg Leu Val Gly His Ser Met Ala Ile Cys Thr Arg His Pro
        35                  40                  45
Gln Gly Tyr His Leu Trp Ser Glu Ala Ile Pro Leu Cys Gln Ala Leu
    50                  55                  60
Ser Cys Gly Leu Pro Glu Ala Pro Lys Asn Gly Met Val Phe Gly Lys
65                  70                  75                  80
Glu Tyr Thr Val Gly Thr Lys Ala Met Tyr Ser Cys Ser Glu Gly Tyr
                85                  90                  95
His Leu Gln Ala Gly Ala Glu Ala Thr Ala Glu Cys Leu Asp Thr Gly
            100                 105                 110
Leu Trp Ser Asn Arg Asn Val Pro Pro Gln Cys Val Pro Val Thr Cys
            115                 120                 125
Pro Asp Val Ser Ser Ile Ser Val Glu His Gly Arg Trp Arg Leu Ile
        130                 135                 140
Phe Glu Thr Gln Tyr Gln Phe Gln Ala Gln Leu Met Leu Ile Cys Asp
145                 150                 155                 160
Pro Gly Tyr Tyr Tyr Thr Gly Gln Arg Val Ile Arg Cys Gln Ala Asn
                165                 170                 175
Gly Lys Trp Ser Leu Gly Asp Ser Thr Pro Thr Cys Arg Ile Leu Ala
            180                 185                 190
Lys Gln Lys Gln Pro Cys Pro Ser Ser Trp Gly Trp Leu Thr Glu His
    195                 200                 205
Leu Val Ile Ile Leu Val Ile Ser Cys Gly Glu Leu Pro Ile Pro Pro
    210                 215                 220
Asn Gly His Arg Ile Gly Thr Leu Ser Val Tyr Gly Ala Thr Ala Ile
225                 230                 235                 240
Phe Ser Cys Asn Ser Gly Tyr Thr Leu Val Gly Ser Arg Val Arg Glu
                245                 250                 255
Cys Met Ala Asn Gly Leu Trp Ser Gly Ser Glu Val Arg Cys Leu Ala
            260                 265                 270
Thr Gln Thr Lys Leu His Ser Ile Phe Tyr Lys Leu Leu Phe Asp Val
    275                 280                 285
Leu Ser Ser Pro Ser Leu Thr Lys Ala Gly His Cys Gly Thr Pro Glu
    290                 295                 300
Pro Ile Val Asn Gly His Ile Asn Gly Glu Asn Tyr Ser Tyr Arg Gly
305                 310                 315                 320
Ser Val Val Tyr Gln Cys Asn Ala Gly Phe Arg Leu Ile Gly Met Ser
                325                 330                 335
Val Arg Ile Cys Gln Gln Asp His His Trp Ser Gly Lys Thr Pro Phe
            340                 345                 350
Cys Val Pro Ile Thr Cys Gly His Pro Gly Asn Pro Val Asn Gly Leu
    355                 360                 365
Thr Gln Gly Asn Gln Phe Asn Leu Asn Asp Val Val Lys Phe Val Cys
    370                 375                 380
Asn Pro Gly Tyr Met Ala Glu Gly Ala Ala Arg Ser Gln Cys Leu Ala
385                 390                 395                 400
Ser Gly Gln Trp Ser Asp Met Leu Pro Thr Cys Arg Ile Ile Asn Cys
                405                 410                 415
Thr Asp Pro Gly His Gln Glu Asn Ser Val Arg Gln Val His Ala Ser
            420                 425                 430
Gly Pro His Arg Phe Ser Phe Gly Thr Thr Val Ser Tyr Arg Cys Asn
            435                 440                 445
```

His Gly Phe Tyr Leu Leu Gly Thr Pro Val Leu Ser Cys Gln Gly Asp
    450   455   460

Gly Thr Trp Asp Arg Pro Arg Pro Gln Cys Leu Leu Val Ser Cys Gly
465   470   475   480

His Pro Gly Ser Pro Pro His Ser Gln Met Ser Gly Asp Ser Tyr Thr
             485   490   495

Val Gly Ala Val Val Arg Tyr Ser Cys Ile Gly Lys Arg Thr Leu Val
        500   505   510

Gly Asn Ser Thr Arg Met Cys Gly Leu Asp Gly His Trp Thr Gly Ser
        515   520   525

Leu Pro His Cys Ser
    530

<210> 57
<211> 1584
<212> PRT
<213> Homo sapiens

<400> 57
Pro Leu Ala Phe Cys Gly Ser Glu Asn His Ser Ala Ala Tyr Arg Val
1   5   10   15

Asp Gln Gly Val Leu Asn Asn Gly Cys Phe Val Asp Ala Leu Asn Val
        20   25   30

Val Pro His Val Phe Leu Leu Phe Ile Thr Phe Pro Ile Leu Phe Ile
        35   40   45

Gly Trp Gly Ser Gln Ser Ser Lys Val His Ile His His Ser Thr Trp
        50   55   60

Leu His Phe Pro Gly His Asn Leu Arg Trp Ile Leu Thr Phe Met Leu
65   70   75   80

Leu Phe Val Leu Val Cys Glu Ile Ala Glu Gly Ile Leu Ser Asp Gly
             85   90   95

Val Thr Glu Ser His His Leu His Leu Tyr Met Pro Ala Gly Met Ala
        100   105   110

Phe Met Ala Ala Val Thr Ser Val Val Tyr Tyr His Asn Ile Glu Thr
        115   120   125

Ser Asn Phe Pro Lys Leu Leu Ile Ala Leu Leu Val Tyr Trp Thr Leu
        130   135   140

Ala Phe Ile Thr Lys Thr Ile Lys Phe Val Lys Phe Leu Asp His Ala
145   150   155   160

Ile Gly Phe Ser Gln Leu Arg Phe Cys Leu Thr Gly Leu Leu Val Ile
             165   170   175

Leu Tyr Gly Met Leu Leu Leu Val Glu Val Asn Val Ile Arg Val Arg
        180   185   190

Arg Tyr Ile Phe Phe Lys Thr Pro Arg Glu Val Lys Pro Pro Glu Asp
        195   200   205

Leu Gln Asp Leu Gly Val Arg Phe Leu Gln Pro Phe Val Asn Leu Leu
        210   215   220

Ser Lys Gly Thr Tyr Trp Trp Met Asn Ala Phe Ile Lys Thr Ala His
225   230   235   240

Lys Lys Pro Ile Asp Leu Arg Ala Ile Gly Lys Leu Pro Ile Ala Met
             245   250   255

Arg Ala Leu Thr Asn Tyr Gln Arg Leu Cys Glu Ala Phe Asp Ala Gln
        260   265   270

Val Arg Lys Asp Ile Gln Gly Thr Gln Gly Ala Arg Ala Ile Trp Gln
        275   280   285

Ala Leu Ser His Ala Phe Gly Arg Arg Leu Val Leu Ser Ser Thr Phe
        290   295   300

Arg Ile Leu Ala Asp Leu Leu Gly Phe Ala Gly Pro Leu Cys Ile Phe
305   310   315   320

Gly Ile Val Asp His Leu Gly Lys Glu Asn Asp Val Phe Gln Pro Lys
             325   330   335

Thr Gln Phe Leu Gly Val Tyr Phe Val Ser Ser Gln Glu Phe Leu Ala
        340   345   350

```
Asn Ala Tyr Val Leu Ala Val Leu Leu Phe Leu Ala Leu Leu Leu Gln
    355                 360             365
Arg Thr Phe Leu Gln Ala Ser Tyr Tyr Val Ala Ile Glu Thr Gly Ile
    370             375             380
Asn Leu Arg Gly Ala Ile Gln Thr Lys Ile Tyr Asn Lys Ile Met His
385             390             395                 400
Leu Ser Thr Ser Asn Leu Ser Met Gly Glu Met Thr Ala Gly Gln Ile
            405             410             415
Cys Asn Leu Val Ala Ile Asp Thr Asn Gln Leu Met Trp Phe Phe Phe
        420             425             430
Leu Cys Pro Asn Leu Trp Ala Met Pro Val Gln Ile Ile Val Gly Val
        435             440             445
Ile Leu Leu Tyr Tyr Ile Leu Gly Val Ser Ala Leu Ile Gly Ala Ala
    450             455             460
Val Ile Ile Leu Leu Ala Pro Val Gln Tyr Phe Val Ala Thr Lys Leu
465             470             475             480
Ser Gln Ala Gln Arg Ser Thr Leu Glu Tyr Ser Asn Glu Arg Leu Lys
            485             490             495
Gln Thr Asn Glu Met Leu Arg Gly Ile Lys Leu Leu Lys Leu Tyr Ala
            500             505             510
Trp Glu Asn Ile Phe Arg Thr Arg Val Glu Thr Thr Arg Arg Lys Glu
    515             520             525
Met Thr Ser Leu Arg Ala Phe Ala Ile Tyr Thr Ser Ile Ser Ile Phe
    530             535             540
Met Asn Thr Ala Ile Pro Ile Ala Ala Val Leu Ile Thr Phe Val Gly
545             550             555             560
His Val Ser Phe Phe Lys Glu Ala Asp Phe Ser Pro Ser Val Ala Phe
            565             570             575
Ala Ser Leu Ser Leu Phe His Ile Leu Val Thr Pro Leu Phe Leu Leu
            580             585             590
Ser Ser Val Val Arg Ser Thr Val Lys Ala Leu Val Ser Val Gln Lys
    595             600             605
Leu Ser Glu Phe Leu Ser Ser Ala Glu Ile Arg Glu Glu Gln Cys Ala
    610             615             620
Pro His Glu Pro Thr Pro Gln Gly Pro Ala Ser Lys Tyr Gln Ala Val
625             630             635             640
Pro Leu Arg Val Val Asn Arg Lys Arg Pro Ala Arg Glu Asp Cys Arg
            645             650             655
Gly Leu Thr Gly Pro Leu Gln Ser Leu Val Pro Ser Ala Asp Gly Asp
            660             665             670
Ala Asp Asn Cys Cys Val Gln Ile Met Gly Gly Tyr Phe Thr Trp Thr
            675             680             685
Pro Asp Gly Ile Pro Thr Leu Ser Asn Ile Thr Ile Arg Ile Pro Arg
    690             695             700
Gly Gln Leu Thr Met Ile Val Gly Gln Val Gly Cys Gly Lys Ser Ser
705             710             715             720
Leu Leu Leu Ala Ala Leu Gly Glu Met Gln Lys Val Ser Gly Ala Val
            725             730             735
Phe Trp Ser Ser Met Pro Phe Leu Pro Cys Cys Ser Pro Glu Arg Glu
            740             745             750
Thr Ala Thr Asp Leu Asp Ile Arg Lys Arg Gly Pro Val Ala Tyr Ala
    755             760             765
Ser Gln Lys Pro Trp Leu Leu Asn Ala Thr Val Glu Glu Asn Ile Ile
    770             775             780
Phe Glu Ser Pro Phe Asn Lys Gln Arg Tyr Lys Met Val Ile Glu Ala
785             790             795                 800
Cys Ser Leu Gln Pro Asp Ile Asp Ile Leu Pro His Gly Asp Gln Thr
            805             810             815
Gln Ile Gly Glu Arg Gly Ile Asn Leu Ser Gly Gly Gln Arg Gln Arg
            820             825             830
Ile Ser Val Ala Arg Ala Leu Tyr Gln His Ala Asn Val Val Phe Leu
    835             840             845
Asp Asp Pro Phe Ser Ala Leu Asp Ile His Leu Ser Asp His Leu Met
```

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        850                    855                    860
Gln Ala Gly Ile Leu Glu Leu Leu Arg Asp Asp Lys Arg Thr Val Val
865                    870                    875                    880
Leu Val Thr His Lys Leu Gln Tyr Leu Pro His Ala Asp Trp Ile Ile
                       885                    890                    895
Ala Met Lys Asp Gly Thr Ile Gln Arg Glu Gly Thr Leu Lys Asp Phe
                  900                    905                    910
Gln Arg Ser Glu Cys Gln Leu Phe Glu His Trp Lys Thr Leu Met Asn
             915                    920                    925
Arg Gln Asp Gln Glu Leu Glu Lys Glu Thr Val Thr Glu Arg Lys Ala
        930                    935                    940
Thr Glu Pro Pro Gln Gly Leu Ser Arg Ala Met Ser Ser Arg Asp Gly
945                    950                    955                    960
Leu Leu Gln Asp Glu Glu Glu Glu Glu Glu Ala Ala Glu Ser Glu
                  965                    970                    975
Glu Asp Asp Asn Leu Ser Ser Met Leu His Gln Arg Ala Glu Ile Pro
                  980                    985                    990
Trp Arg Ala Cys Ala Lys Tyr Leu Ser Ser Ala Gly Ile Leu Leu Leu
             995                    1000                   1005
Ser Leu Leu Val Phe Ser Gln Leu Leu Lys His Met Val Leu Val Ala
        1010                   1015                   1020
Ile Asp Tyr Trp Leu Ala Lys Trp Thr Asp Ser Ala Leu Thr Leu Thr
1025                   1030                   1035                   1040
Pro Ala Ala Arg Asn Cys Ser Leu Ser Gln Glu Cys Thr Leu Asp Gln
                  1045                   1050                   1055
Thr Val Tyr Ala Met Val Phe Thr Val Leu Cys Ser Leu Gly Ile Val
                  1060                   1065                   1070
Leu Cys Leu Val Thr Ser Val Thr Val Glu Trp Thr Gly Leu Lys Val
             1075                   1080                   1085
Ala Lys Arg Leu His Arg Ser Leu Leu Asn Arg Ile Ile Leu Ala Pro
        1090                   1095                   1100
Met Arg Phe Phe Glu Thr Thr Pro Leu Gly Ser Ile Leu Asn Arg Phe
1105                   1110                   1115                   1120
Ser Ser Asp Cys Asn Thr Ile Asp Gln His Ile Pro Ser Thr Leu Glu
                  1125                   1130                   1135
Cys Leu Ser Arg Ser Thr Leu Leu Cys Val Ser Ala Leu Ala Val Ile
             1140                   1145                   1150
Ser Tyr Val Thr Pro Val Phe Leu Val Ala Leu Leu Pro Leu Ala Ile
             1155                   1160                   1165
Val Cys Tyr Phe Ile Gln Lys Tyr Phe Arg Val Ala Ser Arg Asp Leu
        1170                   1175                   1180
Gln Gln Leu Asp Asp Thr Thr Gln Leu Pro Leu Leu Ser His Phe Ala
1185                   1190                   1195                   1200
Glu Thr Val Glu Gly Leu Thr Thr Ile Arg Ala Phe Arg Tyr Glu Ala
                  1205                   1210                   1215
Arg Phe Gln Gln Lys Leu Leu Glu Tyr Thr Asp Ser Asn Asn Ile Ala
                  1220                   1225                   1230
Ser Leu Phe Leu Thr Ala Ala Asn Arg Trp Leu Glu Val Arg Met Ala
             1235                   1240                   1245
Thr Pro Leu Pro Pro Gln Glu Tyr Ile Gly Ala Cys Val Val Leu Ile
        1250                   1255                   1260
Ala Ala Val Thr Ser Ile Ser Asn Ser Leu His Arg Glu Leu Ser Ala
1265                   1270                   1275                   1280
Gly Leu Val Gly Leu Gly Leu Thr Tyr Ala Leu Met Val Ser Asn Tyr
                  1285                   1290                   1295
Leu Asn Trp Met Val Arg Asn Leu Ala Asp Met Glu Leu Gln Leu Gly
             1300                   1305                   1310
Ala Val Lys Arg Ile His Gly Leu Leu Lys Thr Glu Ala Glu Ser Tyr
        1315                   1320                   1325
Glu Gly Leu Leu Ala Pro Ser Leu Ile Pro Lys Asn Trp Pro Asp Gln
        1330                   1335                   1340
Gly Lys Ile Gln Ile Gln Asn Leu Ser Val Arg Tyr Asp Ser Ser Leu
1345                   1350                   1355                   1360
```

```
Lys Pro Val Leu Lys His Val Asn Ala Leu Ile Ala Pro Gly Gln Lys
              1365              1370              1375
Ile Gly Ile Cys Gly Arg Thr Gly Ser Gly Lys Ser Ser Phe Ser Leu
              1380              1385              1390
Ala Phe Phe Arg Met Val Asp Thr Phe Glu Gly His Ile Ile Ile Asp
              1395              1400              1405
Gly Ile Asp Ile Ala Lys Leu Pro Leu His Thr Leu Arg Ser Arg Leu
     1410              1415              1420
Ser Ile Ile Leu Gln Asp Pro Val Leu Phe Ser Gly Thr Ile Arg Phe
1425              1430              1435              1440
Asn Leu Asp Pro Glu Arg Lys Cys Ser Asp Ser Thr Leu Trp Glu Ala
              1445              1450              1455
Leu Glu Ile Ala Gln Leu Lys Leu Val Val Lys Ala Leu Pro Gly Gly
              1460              1465              1470
Leu Asp Ala Ile Ile Thr Glu Gly Gly Glu Asn Phe Ser Gln Gly Gln
              1475              1480              1485
Arg Gln Leu Phe Cys Leu Ala Arg Ala Phe Val Arg Lys Thr Ser Ile
     1490              1495              1500
Phe Ile Met Asp Glu Ala Thr Ala Ser Ile Asp Met Ala Thr Glu Asn
1505              1510              1515              1520
Ile Leu Gln Lys Val Val Met Thr Ala Phe Ala Asp Arg Thr Val Val
              1525              1530              1535
Thr Ile Ala His Arg Val His Thr Ile Leu Ser Ala Asp Leu Val Ile
              1540              1545              1550
Val Leu Lys Arg Gly Ala Ile Leu Glu Phe Asp Lys Pro Glu Lys Leu
              1555              1560              1565
Leu Ser Arg Lys Asp Ser Val Phe Ala Ser Phe Val Arg Ala Asp Lys
     1570              1575              1580
```

<210> 58
<211> 274
<212> PRT
<213> Homo sapiens

<400> 58
```
Met Pro Arg Asn Leu Leu Tyr Ser Leu Leu Ser Ser His Leu Ser Pro
 1                5              10              15
His Phe Ser Thr Ser Val Thr Ser Ala Lys Val Ala Val Asn Gly Val
              20              25              30
Gln Leu His Tyr Gln Gln Thr Gly Glu Gly Asp His Ala Val Leu Leu
              35              40              45
Leu Pro Gly Met Leu Gly Ser Gly Glu Thr Asp Phe Gly Pro Gln Leu
     50              55              60
Lys Asn Leu Asn Lys Lys Leu Phe Thr Val Val Ala Trp Asp Pro Arg
65              70              75              80
Gly Tyr Gly His Ser Arg Pro Pro Asp Arg Asp Phe Pro Ala Asp Phe
              85              90              95
Phe Glu Arg Asp Ala Lys Asp Ala Val Asp Leu Met Lys Ala Leu Lys
              100              105              110
Phe Lys Lys Val Ser Leu Leu Gly Trp Ser Asp Gly Gly Ile Thr Ala
              115              120              125
Leu Ile Ala Ala Ala Lys Tyr Pro Ser Tyr Ile His Lys Met Val Ile
     130              135              140
Trp Gly Ala Asn Ala Tyr Val Thr Asp Glu Asp Ser Met Ile Tyr Glu
145              150              155              160
Gly Ile Arg Asp Val Ser Lys Trp Ser Glu Arg Thr Arg Lys Pro Leu
              165              170              175
Glu Ala Leu Tyr Gly Tyr Asp Tyr Phe Ala Arg Thr Cys Glu Lys Trp
              180              185              190
Val Asp Gly Ile Arg Gln Phe Lys His Leu Pro Asp Gly Asn Ile Cys
     195              200              205
Arg His Leu Leu Pro Arg Val Gln Cys Pro Ala Leu Ile Val His Gly
     210              215              220
```
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Glu Lys Asp Pro Leu Val Pro Arg Phe His Ala Asp Phe Ile His Lys
225   230   235   240
His Val Lys Gly Ser Arg Leu His Leu Met Pro Glu Gly Lys His Asn
                245   250   255
Leu His Leu Arg Phe Ala Asp Glu Phe Asn Lys Leu Ala Glu Asp Phe
                260   265   270
Leu Gln

<210> 59
<211> 1247
<212> PRT
<213> Homo sapiens

<400> 59
Met Met Arg Glu Trp Val Leu Leu Met Ser Val Leu Leu Cys Gly Leu
1   5   10   15
Ala Gly Pro Thr His Leu Phe Gln Pro Ser Leu Val Leu Asp Met Ala
                20   25   30
Lys Val Leu Leu Asp Asn Tyr Cys Phe Pro Glu Asn Leu Leu Gly Met
        35   40   45
Gln Glu Ala Ile Gln Gln Ala Ile Lys Ser His Glu Ile Leu Ser Ile
        50   55   60
Ser Asp Pro Gln Thr Leu Ala Ser Val Leu Thr Ala Gly Val Gln Ser
65   70   75   80
Ser Leu Asn Asp Pro Arg Leu Val Ile Ser Tyr Glu Pro Ser Thr Pro
                85   90   95
Glu Pro Pro Pro Gln Val Pro Ala Leu Thr Ser Leu Ser Glu Glu Glu
                100   105   110
Leu Leu Ala Trp Leu Gln Arg Gly Leu Arg His Glu Val Leu Glu Gly
        115   120   125
Asn Val Gly Tyr Leu Arg Val Asp Ser Val Pro Gly Gln Glu Val Leu
        130   135   140
Ser Met Met Gly Glu Phe Leu Val Ala His Val Trp Gly Asn Leu Met
145   150   155   160
Gly Thr Ser Ala Leu Val Leu Asp Leu Arg His Cys Thr Gly Gly Gln
                165   170   175
Val Ser Gly Ile Pro Tyr Ile Ile Ser Tyr Leu His Pro Gly Asn Thr
                180   185   190
Ile Leu His Val Asp Thr Ile Tyr Asn Arg Pro Ser Asn Thr Thr Thr
        195   200   205
Glu Ile Trp Thr Leu Pro Gln Val Leu Gly Glu Arg Tyr Gly Ala Asp
        210   215   220
Lys Asp Val Val Val Leu Thr Ser Ser Gln Thr Arg Gly Val Ala Glu
225   230   235   240
Asp Ile Ala His Ile Leu Lys Gln Met Arg Arg Ala Ile Val Val Gly
                245   250   255
Glu Arg Thr Gly Gly Gly Ala Leu Asp Leu Arg Lys Leu Arg Ile Gly
                260   265   270
Glu Ser Asp Phe Phe Phe Thr Val Pro Val Ser Arg Ser Leu Gly Pro
        275   280   285
Leu Gly Gly Gly Ser Gln Thr Trp Glu Gly Ser Gly Val Leu Pro Cys
        290   295   300
Val Gly Thr Pro Ala Glu Gln Ala Leu Glu Lys Ala Leu Ala Ile Leu
305   310   315   320
Thr Leu Arg Ser Ala Leu Pro Gly Val Val His Cys Leu Gln Glu Val
                325   330   335
Leu Lys Asp Tyr Tyr Thr Leu Val Asp Arg Val Pro Thr Leu Leu Gln
                340   345   350
His Leu Ala Ser Met Asp Phe Ser Thr Val Val Ser Glu Glu Asp Leu
        355   360   365
Val Thr Lys Leu Asn Ala Gly Leu Gln Ala Ala Ser Glu Asp Pro Arg
        370   375   380

```
Leu Leu Val Arg Ala Ile Gly Pro Thr Glu Thr Pro Ser Trp Pro Ala
385             390             395             400
Pro Asp Ala Ala Ala Glu Asp Ser Pro Gly Val Ala Pro Glu Leu Pro
            405             410             415
Glu Asp Glu Ala Ile Arg Gln Ala Leu Val Asp Ser Val Phe Gln Val
        420             425             430
Ser Val Leu Pro Gly Asn Val Gly Tyr Leu Arg Phe Asp Ser Phe Ala
    435             440             445
Asp Ala Ser Val Leu Gly Val Leu Ala Pro Tyr Val Leu Arg Gln Val
450             455             460
Trp Glu Pro Leu Gln Asp Thr Glu His Leu Ile Met Asp Leu Arg His
465             470             475             480
Asn Pro Gly Gly Pro Ser Ser Ala Val Pro Leu Leu Leu Ser Tyr Phe
            485             490             495
Gln Gly Pro Glu Ala Gly Pro Val His Leu Phe Thr Thr Tyr Asp Arg
        500             505             510
Arg Thr Asn Ile Thr Gln Glu His Phe Ser His Met Glu Leu Pro Gly
    515             520             525
Pro Arg Tyr Ser Thr Gln Arg Gly Val Tyr Leu Leu Thr Ser His Arg
    530             535             540
Thr Ala Thr Ala Ala Glu Glu Phe Ala Phe Leu Met Gln Ser Leu Gly
545             550             555             560
Trp Ala Thr Leu Val Gly Glu Ile Thr Ala Gly Asn Leu Leu His Thr
            565             570             575
Arg Thr Val Pro Leu Leu Asp Thr Pro Glu Gly Ser Leu Ala Leu Thr
            580             585             590
Val Pro Val Leu Thr Phe Ile Asp Asn His Gly Glu Ala Trp Leu Gly
        595             600             605
Gly Gly Val Val Pro Asp Ala Ile Val Leu Ala Glu Glu Ala Leu Asp
610             615             620
Lys Ala Gln Glu Val Leu Glu Phe His Gln Ser Leu Gly Ala Leu Val
625             630             635             640
Glu Gly Thr Gly His Leu Leu Glu Ala His Tyr Ala Arg Pro Glu Val
            645             650             655
Val Gly Gln Thr Ser Ala Leu Leu Arg Ala Lys Leu Ala Gln Gly Ala
        660             665             670
Tyr Arg Thr Ala Val Asp Leu Glu Ser Leu Ala Ser Gln Leu Thr Ala
    675             680             685
Asp Leu Gln Glu Val Ser Gly Asp His Arg Leu Leu Val Phe His Ser
    690             695             700
Pro Gly Glu Leu Val Val Glu Glu Ala Pro Pro Pro Pro Ala Val
705             710             715             720
Pro Ser Pro Glu Glu Leu Thr Tyr Leu Ile Glu Ala Leu Phe Lys Thr
            725     .       730             735
Glu Val Leu Pro Gly Gln Leu Gly Tyr Leu Arg Phe Asp Ala Met Ala
            740             745             750
Glu Leu Glu Thr Val Lys Ala Val Gly Pro Gln Leu Val Arg Leu Val
    755             760             765
Trp Gln Gln Leu Val Asp Thr Ala Ala Leu Val Ile Asp Leu Arg Tyr
770             775             780
Asn Pro Gly Ser Tyr Ser Thr Ala Ile Pro Leu Leu Cys Ser Tyr Phe
785             790             795             800
Phe Glu Ala Glu Pro Arg Gln His Leu Tyr Ser Val Phe Asp Arg Ala
            805             810             815
Thr Ser Lys Val Thr Glu Val Trp Thr Leu Pro Gln Val Ala Gly Gln
    820             825             830
Arg Tyr Gly Ser His Lys Asp Leu Tyr Ile Leu Met Ser His Thr Ser
    835             840             845
Gly Ser Ala Ala Glu Ala Phe Ala His Thr Met Gln Asp Leu Gln Arg
    850             855             860
Ala Thr Val Ile Gly Glu Pro Thr Ala Gly Gly Ala Leu Ser Val Gly
865             870             875             880
Ile Tyr Gln Val Gly Ser Ser Pro Leu Tyr Ala Ser Met Pro Thr Gln
```

```
                   885                 890                    895
Met Ala Met Ser Ala Thr Thr Gly Lys Ala Trp Asp Leu Ala Gly Val
              900                 905                 910
Glu Pro Asp Ile Thr Val Pro Met Ser Glu Ala Leu Ser Ile Ala Gln
              915                 920                 925
Asp Ile Val Ala Leu Arg Ala Lys Val Pro Thr Val Leu Gln Thr Ala
              930                 935                 940
Gly Lys Leu Val Ala Asp Asn Tyr Ala Ser Ala Glu Leu Gly Ala Lys
945                 950                 955                 960
Met Ala Thr Lys Leu Ser Gly Leu Gln Ser Arg Tyr Ser Arg Val Thr
              965                 970                 975
Ser Glu Val Ala Leu Ala Glu Ile Leu Gly Ala Asp Leu Gln Met Leu
              980                 985                 990
Ser Gly Asp Pro His Leu Lys Ala Ala His Ile Pro Glu Asn Ala Lys
              995                 1000                1005
Asp Arg Ile Pro Gly Ile Val Pro Met Gln Ile Pro Ser Pro Glu Val
              1010                1015                1020
Phe Glu Glu Leu Ile Lys Phe Ser Phe His Thr Asn Val Leu Glu Asp
1025                1030                1035                1040
Asn Ile Gly Tyr Leu Arg Phe Asp Met Phe Gly Asp Gly Glu Leu Leu
                   1045                1050                1055
Thr Gln Val Ser Arg Leu Leu Val Glu His Ile Trp Lys Lys Ile Met
              1060                1065                1070
His Thr Asp Ala Met Ile Ile Asp Met Arg Phe Asn Ile Gly Gly Pro
              1075                1080                1085
Thr Ser Ser Ile Pro Ile Leu Cys Ser Tyr Phe Phe Asp Glu Gly Pro
              1090                1095                1100
Pro Val Leu Leu Asp Lys Ile Tyr Ser Arg Pro Asp Asp Ser Val Ser
1105                1110                1115                1120
Glu Leu Trp Thr His Ala Gln Val Val Gly Glu Arg Tyr Gly Ser Lys
                   1125                1130                1135
Lys Ser Met Val Ile Leu Thr Ser Ser Val Thr Ala Gly Thr Ala Glu
              1140                1145                1150
Glu Phe Thr Tyr Ile Met Lys Arg Leu Gly Arg Ala Leu Val Ile Gly
              1155                1160                1165
Glu Val Thr Ser Gly Gly Cys Gln Pro Pro Gln Thr Tyr His Val Asp
              1170                1175                1180
Asp Thr Asn Leu Tyr Leu Thr Ile Pro Thr Ala Arg Ser Val Gly Ala
1185                1190                1195                1200
Ser Asp Gly Ser Ser Trp Glu Gly Val Gly Val Thr Pro His Val Val
                   1205                1210                1215
Val Pro Ala Glu Glu Ala Leu Ala Arg Ala Lys Glu Met Leu Gln His
              1220                1225                1230
Asn Gln Leu Arg Val Lys Arg Ser Pro Gly Leu Gln Asp His Leu
              1235                1240                1245
```

```
<210> 60
<211> 300
<212> PRT
<213> Homo sapiens

<400> 60
Met Ala Glu Val Asn Ile Ile Tyr Val Thr Val Phe Ile Leu Lys Gly
1                 5                 10                  15
Ile Thr Asn Arg Pro Glu Leu Gln Ala Pro Cys Phe Gly Val Phe Leu
              20                  25                  30
Val Ile Tyr Leu Val Thr Val Leu Gly Asn Leu Gly Leu Ile Thr Leu
              35                  40                  45
Ile Lys Ile Asp Thr Arg Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
     50                 55                  60
His Leu Ala Phe Val Asp Leu Cys Tyr Ser Ser Ala Ile Thr Pro Lys
65                 70                  75                  80
Met Met Val Asn Phe Val Val Glu Arg Asn Thr Ile Pro Phe His Ala
```

                                  85   90   95
Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe Met Ile Thr Glu Cys
                100   105   110
Phe Leu Leu Ala Ser Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Ser
            115   120   125
Pro Leu His Tyr Ser Thr Leu Met Ser Arg Arg Val Cys Ile Gln Leu
        130   135   140
Val Ala Val Pro Tyr Ile Tyr Ser Phe Leu Val Ala Leu Phe His Thr
145   150   155   160
Val Ile Thr Phe Arg Leu Thr Tyr Cys Gly Pro Asn Leu Ile Asn His
                165   170   175
Phe Tyr Cys Asp Asp Leu Pro Phe Leu Ala Leu Ser Cys Ser Asp Thr
            180   185   190
His Met Lys Glu Ile Leu Ile Phe Ala Phe Ala Gly Phe Asp Met Ile
            195   200   205
Ser Ser Ser Ser Ile Val Leu Thr Ser Tyr Ile Phe Ile Ile Ala Ala
    210   215   220
Ile Leu Arg Ile Arg Ser Thr Gln Gly Gln His Lys Ala Ile Ser Thr
225   230   235   240
Cys Gly Ser His Met Val Thr Val Thr Ile Phe Tyr Gly Thr Leu Ile
                245   250   255
Phe Met Tyr Leu Gln Pro Lys Ser Asn His Ser Leu Asp Thr Asp Lys
            260   265   270
Met Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu
        275   280   285
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala
    290   295   300

<210> 61
<211> 418
<212> PRT
<213> Homo sapiens

<400> 61
Met Ile Gln Leu Thr Ala Thr Pro Val Ser Ala Leu Val Asp Glu Pro
 1   5   10   15
Val His Ile Arg Ala Thr Gly Leu Ile Pro Phe Gln Met Val Ser Phe
                20   25   30
Gln Ala Ser Leu Glu Asp Glu Asn Gly Asp Met Phe Tyr Ser Gln Ala
            35   40   45
His Tyr Arg Ala Asn Glu Phe Gly Glu Val Asp Leu Asn His Ala Ser
        50   55   60
Ser Leu Gly Gly Asp Tyr Met Gly Val His Pro Met Gly Leu Phe Trp
65   70   75   80
Ser Leu Lys Pro Glu Lys Leu Leu Thr Arg Leu Leu Lys Arg Asp Val
                85   90   95
Met Asn Arg Pro Phe Gln Val Gln Val Lys Leu Tyr Asp Leu Glu Leu
                100   105   110
Ile Val Asn Asn Lys Val Ala Ser Ala Pro Lys Ala Ser Leu Thr Leu
            115   120   125
Glu Arg Trp Tyr Val Ala Pro Gly Val Thr Arg Ile Lys Val Arg Glu
        130   135   140
Gly Arg Leu Arg Gly Ala Leu Phe Leu Pro Pro Gly Glu Gly Leu Phe
145   150   155   160
Pro Gly Val Ile Asp Leu Phe Gly Gly Leu Gly Gly Leu Leu Glu Phe
                165   170   175
Arg Ala Ser Leu Leu Ala Ser Arg Gly Phe Ala Ser Leu Ala Leu Ala
            180   185   190
Tyr His Asn Tyr Glu Asp Leu Pro Arg Lys Pro Glu Val Thr Asp Leu
            195   200   205
Glu Tyr Phe Glu Glu Ala Ala Asn Phe Leu Leu Arg His Pro Lys Val
        210   215   220
Phe Gly Ser Gly Val Gly Val Val Ser Val Cys Gln Gly Val Gln Ile

```
225                     230                     235                     240
Gly Leu Ser Met Ala Ile Tyr Leu Lys Gln Val Thr Ala Thr Val Leu
                    245                 250                 255
Ile Asn Gly Thr Asn Phe Pro Phe Gly Ile Pro Gln Val Tyr His Gly
                260                 265                 270
Gln Ile His Gln Pro Leu Pro His Ser Ala Gln Leu Ile Ser Thr Asn
            275                 280                 285
Ala Leu Gly Leu Leu Glu Leu Tyr Arg Thr Phe Glu Thr Thr Gln Val
        290                 295                 300
Gly Ala Ser Gln Tyr Leu Phe Pro Ile Glu Glu Ala Gln Gly Gln Phe
305                 310                 315                 320
Leu Phe Ile Val Gly Glu Gly Asp Lys Thr Ile Asn Ser Lys Ala His
                325                 330                 335
Ala Glu Gln Ala Ile Gly Gln Leu Lys Arg His Gly Lys Asn Asn Trp
            340                 345                 350
Thr Leu Leu Ser Tyr Pro Gly Ala Gly His Leu Ile Glu Pro Pro Tyr
        355                 360                 365
Ser Pro Leu Cys Cys Ala Ser Thr Thr His Asp Leu Arg Leu His Trp
    370                 375                 380
Gly Gly Glu Val Ile Pro His Ala Ala Ala Gln Glu His Ala Trp Lys
385                 390                 395                 400
Glu Ile Gln Arg Phe Leu Arg Lys His Leu Ile Pro Asp Val Thr Ser
                405                 410                 415
Gln Leu
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<210> 62
<211> 262
<212> PRT
<213> Homo sapiens

<400> 62

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Ile Ser Pro Gln Ser Arg Asp Ala Lys Pro Asn Pro Glu Glu Pro Ile
1                   5                   10                  15
Asp Glu Asp Glu Asp Ile Gln Thr Glu Arg Ile Arg Thr Ala Thr Ala
                20                  25                  30
Leu Thr Thr Ser Ile Leu Asp Glu Val Glu Leu Lys Gly Cys Ser Ser
            35                  40                  45
Val Leu Gly His Leu Gly Tyr Cys Pro Gln Glu Asn Val Leu Trp Pro
        50                  55                  60
Met Leu Thr Leu Arg Glu His Leu Glu Val Tyr Ala Ala Val Lys Gly
65                  70                  75                  80
Leu Arg Lys Ala Asp Ala Arg Leu Ala Ile Ala Arg Leu Val Ser Ala
                85                  90                  95
Phe Lys Leu His Glu Gln Leu Asn Val Pro Val Gln Lys Leu Thr Ala
            100                 105                 110
Gly Ile Thr Arg Lys Leu Cys Phe Val Leu Ser Leu Leu Gly Asn Ser
        115                 120                 125
Pro Val Leu Leu Leu Asp Glu Pro Ser Thr Gly Ile Asp Pro Thr Gly
    130                 135                 140
Gln Gln Gln Met Trp Gln Ala Ile Gln Ala Val Val Lys Asn Thr Glu
145                 150                 155                 160
Arg Gly Val Leu Leu Thr Thr His Asn Leu Ala Glu Ala Glu Ala Leu
                165                 170                 175
Cys Asp Arg Val Ala Ile Met Val Ser Gly Arg Leu Arg Cys Ile Gly
            180                 185                 190
Ser Ile Gln His Leu Lys Asn Lys Leu Gly Lys Asp Tyr Ile Leu Glu
        195                 200                 205
Leu Lys Val Lys Glu Thr Ser Gln Val Thr Leu Val His Thr Glu Ile
    210                 215                 220
Leu Lys Leu Phe Pro Gln Ala Ala Gly Gln Glu Arg Tyr Ser Ser Leu
225                 230                 235                 240
Leu Thr Tyr Lys Leu Pro Val Ala Asp Val Tyr Pro Leu Ser Gln Thr
```

                               245   250   255
Phe His Lys Leu Glu Ala
              260

<210> 63
<211> 1303
<212> PRT
<213> Homo sapiens

<400> 63
Trp Asn Thr Ser Asn Pro Asp Phe Thr Lys Cys Phe Gln Asn Thr Val
1   5   10   15
Leu Val Trp Val Pro Cys Phe Tyr Leu Trp Ala Cys Phe Pro Phe Tyr
            20   25   30
Phe Leu Tyr Leu Ser Arg His Asp Arg Gly Tyr Ile Gln Met Thr Pro
        35   40   45
Leu Asn Lys Thr Lys Thr Ala Leu Gly Phe Leu Leu Trp Ile Val Cys
    50   55   60
Trp Ala Asp Leu Phe Tyr Ser Phe Trp Glu Arg Ser Arg Gly Ile Phe
65   70   75   80
Leu Ala Pro Val Phe Leu Val Ser Pro Thr Leu Leu Gly Ile Thr Met
                85   90   95
Leu Leu Ala Thr Phe Leu Ile Gln Leu Glu Arg Arg Lys Gly Val Gln
                100   105   110
Ser Ser Gly Ile Met Leu Thr Phe Trp Leu Val Ala Leu Val Cys Ala
            115   120   125
Leu Ala Ile Leu Arg Ser Lys Ile Met Thr Ala Leu Lys Glu Val Asp
    130   135   140
Leu Phe Arg Asp Ile Thr Phe Tyr Val Tyr Phe Ser Leu Leu Leu Ile
145   150   155   160
Gln Leu Val Leu Ser Cys Phe Ser Asp Arg Ser Pro Leu Phe Ser Glu
                165   170   175
Thr Ile His Asp Pro Asn Pro Cys Pro Glu Ser Ser Ala Ser Phe Leu
                180   185   190
Ser Arg Ile Thr Phe Trp Trp Ile Thr Gly Leu Ile Val Arg Gly Tyr
            195   200   205
Arg Gln Pro Leu Glu Gly Ser Asp Leu Trp Ser Leu Asn Lys Glu Asp
    210   215   220
Thr Ser Glu Gln Val Val Pro Val Leu Val Lys Asn Trp Lys Lys Glu
225   230   235   240
Cys Ala Lys Thr Arg Asn Ser Ser Gly Ser Gly Glu Ser Cys Ser Ala
                245   250   255
Asn Thr Glu Ala Leu Phe Pro Ala Pro Thr Cys His Lys Ser Phe Gln
                260   265   270
Ala Leu Ser Leu Leu Leu Cys Arg Leu Leu Ile Lys Phe Val Asn Asp
            275   280   285
Thr Lys Ala Pro Asp Trp Gln Gly Tyr Phe Tyr Thr Val Leu Leu Phe
    290   295   300
Val Thr Ala Cys Leu Gln Thr Leu Val Leu His Gln Tyr Phe His Ile
305   310   315   320
Cys Phe Val Ser Gly Met Arg Ile Lys Thr Ala Val Ile Gly Ala Val
                325   330   335
Tyr Arg Lys Ala Leu Val Ile Thr Asn Ser Ala Arg Lys Ser Ser Thr
                340   345   350
Val Gly Glu Ile Val Asn Leu Met Ser Val Asp Ala Gln Arg Phe Met
            355   360   365
Asp Leu Ala Thr Tyr Ile Asn Met Ile Trp Ser Ala Pro Leu Gln Val
    370   375   380
Ile Leu Ala Leu Tyr Leu Leu Trp Leu Val Val Ala Pro Asp Val Leu
385   390   395   400
Thr Ala Val Ser Ser Lys Val Ala His Met Lys Ser Lys Asp Asn Arg
                405   410   415
Ile Lys Leu Met Asn Glu Ile Leu Asn Gly Ile Lys Val Leu Lys Leu

```
                   420                   425                        430
Tyr Ala Trp Glu Leu Ala Phe Lys Asp Lys Val Leu Ala Ile Arg Gln
         435                 440                     445
Glu Glu Leu Lys Val Leu Lys Lys Ser Ala Tyr Leu Ser Ala Val Gly
     450                 455                     460
Thr Phe Thr Trp Val Cys Thr Pro Phe Leu Val Ala Leu Cys Thr Phe
465                     470                     475                 480
Ala Val Tyr Val Thr Ile Asp Glu Asn Asn Ile Leu Asp Ala Gln Thr
             485                 490                     495
Ala Phe Val Ser Leu Ala Leu Phe Asn Ile.Leu Arg Phe Pro Leu Asn
             500  ·              505                     510
Ile Leu Pro Met Val Ile Ser Ser Ile Val Gln Val Gln Gly Glu Ala
         515                 520                     525
Gly Ala Thr Ser Glu Arg Gly Pro Trp Gly Ser Arg Pro Arg Lys His
     530                 535                     540
Gly Thr Arg Gln Ala Ser Phe Ser Val Ala Glu Pro Gly Val Leu Cys
545                 550                     555                     560
Arg Phe Ser Ile Thr Phe Ser Ile Pro Glu Gly Ala Leu Val Ala Val
             565                 570                     575
Val Gly Gln Val Gly Cys Gly Lys Ser Ser Leu Leu Ser Ala Leu Leu
             580                 585                     590
Ala Glu Met Asp Lys Val Glu Gly His Val Ala Ile Lys Gly Ser Val
         595                 600                     605
Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Asp Ser Leu Arg Glu
     610                 615                     620
Asn Ile Leu Phe Gly Cys Gln Leu Glu Glu Pro Tyr Tyr Arg Ser Val
625                 630                     635                     640
Ile Gln Ala Cys Ala Leu Leu Pro Asp Leu Glu Ile Leu Pro Ser Gly
             645                 650                     655
Asp Arg Thr Glu Ile Gly Glu Lys Gly Val Asn Leu Ser Gly Gly Gln
             660                 665                     670
Lys Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser Asn Ala Asp Ile
         675                 680                     685
Tyr Leu Phe Asp Asp Pro Leu Ser Ala Val Asp Ala His Val Gly Lys
     690                 695                     700
His Ile Phe Glu Asn Val Ile Gly Pro Lys Gly Met Leu Lys Asn Lys
705                 710                     715                     720
Ser Cys Leu Ile Ser Cys Asp Leu Gln Val Lys Leu Ser Val Tyr Trp
             725                 730                     735
Asp Tyr Met Lys Ala Ile Gly Leu Phe Ile Ser Phe Leu Ser Ile Phe
             740                 745                     750
Leu Phe Met Cys Asn His Val Ser Ala Leu Ala Ser Asn Tyr Trp Leu
         755                 760                     765
Ser Leu Trp Thr Asp Asp Pro Ile Val Asn Gly Thr Gln Glu His Thr
     770                 775                     780
Lys Val Arg Leu Ser Val Tyr Gly Ala Leu Gly Ile Ser Gln Gly Ile
785                 790                     795                     800
Ala Val Phe Gly Tyr Ser Met Ala Val Ser Ile Gly Gly Ile Leu Ala
             805                 810                     815
Ser Arg Cys Leu His Val Asp Leu Leu His Ser Ile Leu Arg Ser Pro
         820                 825                     830
Met Ser Phe Phe Glu Arg Thr Pro Ser Gly Asn Leu Val Asn Arg Phe
         835                 840                     845
Ser Lys Glu Leu Asp Thr Val Asp Ser Met Ile Pro Glu Val Ile Lys
     850                 855                     860
Met Phe Met Gly Ser Leu Phe Asn Val Ile Gly Ala Cys Ile Val Ile
865                 870                     875                     880
Leu Leu Ala Thr Pro Ile Ala Ala Ile Ile Pro Pro Leu Gly Leu
             885                 890                     895
Ile Tyr Phe Phe Val Gln Arg Phe Tyr Val Ala Ser Ser Arg Gln Leu
             900                 905                     910
Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Val Tyr Ser His Phe Asn
         915  ·              920                     925
```

Glu Thr Leu Leu Gly Val Ser Val Ile Arg Ala Phe Glu Glu Gln Glu
    930   935   940

Arg Phe Ile His Gln Ser Asp Leu Lys Val Asp Glu Asn Gln Lys Ala
945   950   955   960

Tyr Tyr Pro Ser Ile Val Ala Asn Arg Trp Leu Ala Val Arg Leu Glu
                965   970   975

Cys Val Gly Asn Cys Ile Val Leu Phe Ala Ala Leu Phe Ala Val Ile
                980   985   990

Ser Arg His Ser Leu Ser Ala Gly Leu Val Gly Leu Ser Val Ser Tyr
            995   1000   1005

Ser Leu Gln Val Thr Thr Tyr Leu Asn Trp Leu Val Arg Met Ser Ser
        1010   1015   1020

Glu Met Glu Thr Asn Ile Val Ala Val Glu Arg Leu Lys Glu Tyr Ser
1025   1030   1035   1040

Glu Thr Glu Lys Glu Ala Pro Trp Gln Ile Gln Glu Thr Ala Pro Pro
            1045   1050   1055

Ser Ser Trp Pro Gln Val Gly Arg Val Glu Phe Arg Asn Tyr Cys Leu
            1060   1065   1070

Arg Tyr Arg Glu Asp Leu Asp Phe Val Leu Arg His Ile Asn Val Thr
        1075   1080   1085

Ile Asn Gly Gly Glu Lys Val Gly Ile Val Gly Arg Thr Gly Ala Gly
        1090   1095   1100

Lys Ser Ser Leu Thr Leu Gly Leu Phe Arg Ile Asn Glu Ser Ala Glu
1105   1110   1115   1120

Gly Glu Ile Ile Ile Asp Gly Ile Asn Ile Ala Lys Ile Gly Leu His
            1125   1130   1135

Asp Leu Arg Phe Lys Ile Thr Ile Ile Pro Gln Asp Pro Val Leu Phe
        1140   1145   1150

Ser Gly Ser Leu Arg Met Asn Leu Asp Pro Phe Ser Gln Tyr Ser Asp
        1155   1160   1165

Glu Glu Val Trp Thr Ser Leu Glu Leu Ala His Leu Lys Asp Phe Val
    1170   1175   1180

Ser Ala Leu Pro Asp Lys Leu Asp His Glu Cys Ala Glu Gly Gly Glu
1185   1190   1195   1200

Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu Ala Arg Ala Leu
            1205   1210   1215

Leu Arg Lys Thr Lys Ile Leu Val Leu Asp Glu Ala Thr Ala Ala Val
        1220   1225   1230

Asp Leu Glu Thr Asp Asp Leu Ile Gln Ser Thr Ile Arg Thr Gln Phe
        1235   1240   1245

Glu Asp Cys Thr Val Leu Thr Ile Ala His Arg Leu Asn Thr Ile Met
    1250   1255   1260

Asp Tyr Thr Arg Val Ile Val Leu Asp Lys Gly Glu Ile Gln Glu Tyr
1265   1270   1275   1280

Gly Ala Pro Ser Asp Leu Leu Gln Gln Arg Gly Leu Phe Tyr Ser Met
            1285   1290   1295

Ala Lys Asp Ala Gly Leu Val
            1300

<210> 64
<211> 736
<212> PRT
<213> Homo sapiens

<400> 64
His Arg Leu Ile Gly His Ser Ser Ala Glu Cys Ile Leu Ser Gly Asn
 1   5   10   15

Thr Ala His Trp Ser Thr Lys Pro Pro Ile Cys Gln Arg Ile Pro Cys
            20   25   30

Gly Leu Pro Pro Thr Ile Ala Asn Gly Asp Phe Ile Ser Thr Asn Arg
        35   40   45

Glu Asn Phe His Tyr Gly Ser Val Val Thr Tyr Arg Cys Asn Leu Gly
    50   55   60

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Ser Arg Gly Arg Lys Val Phe Glu Leu Val Gly Glu Pro Ser Ile Tyr
65   70   75   80
Cys Thr Ser Asn Asp Asp Gln Val Gly Ile Trp Ser Gly Pro Ala Pro
                85   90   95
Gln Cys Ile Ile Pro Asn Lys Cys Thr Pro Pro Asn Val Glu Asn Gly
            100   105   110
Ile Leu Val Ser Asp Asn Arg Ser Leu Phe Ser Leu Asn Glu Val Val
        115   120   125
Glu Phe Arg Cys Gln Pro Gly Phe Val Met Lys Gly Pro Arg Arg Val
    130   135   140
Lys Cys Gln Ala Leu Asn Lys Trp Glu Pro Glu Leu Pro Ser Cys Ser
145   150   155   160
Arg Val Cys Gln Pro Pro Pro Glu Ile Leu His Gly Glu His Thr Pro
            165   170   175
Ser His Gln Asp Asn Phe Ser Pro Gly Gln Glu Val Phe Tyr Ser Cys
            180   185   190
Glu Pro Gly Tyr Asp Leu Arg Gly Ala Ala Ser Leu His Cys Thr Pro
        195   200   205
Gln Gly Asp Trp Ser Pro Glu Ala Pro Arg Cys Ala Val Lys Ser Cys
    210   215   220
Asp Asp Phe Leu Gly Gln Leu Pro His Gly Arg Val Leu Phe Pro Leu
225   230   235   240
Asn Leu Gln Leu Gly Ala Lys Val Ser Phe Val Cys Asp Glu Gly Phe
                245   250   255
Arg Leu Lys Gly Ser Ser Val Ser His Cys Val Leu Val Gly Met Arg
            260   265   270
Ser Leu Trp Asn Asn Ser Val Pro Val Cys Glu His Ile Phe Cys Pro
        275   280   285
Asn Pro Pro Ala Ile Leu Asn Gly Arg His Thr Gly Thr Pro Ser Gly
    290   295   300
Asp Ile Pro Tyr Gly Lys Glu Ile Ser Tyr Thr Cys Asp Pro His Pro
305   310   315   320
Asp Arg Gly Met Thr Phe Asn Leu Ile Gly Glu Ser Thr Ile Arg Cys
            325   330   335
Thr Ser Asp Pro His Gly Asn Gly Val Trp Ser Ser Pro Ala Pro Arg
            340   345   350
Cys Glu Leu Ser Val Arg Ala Gly His Cys Lys Thr Pro Glu Gln Phe
        355   360   365
Pro Phe Ala Ser Pro Thr Ile Pro Ile Asn Asp Phe Glu Phe Pro Val
    370   375   380
Gly Thr Ser Leu Asn Tyr Glu Cys Arg Pro Gly Tyr Phe Gly Lys Met
385   390   395   400
Phe Ser Ile Ser Cys Leu Glu Asn Leu Val Trp Ser Ser Val Glu Asp
                405   410   415
Asn Cys Arg Arg Lys Ser Cys Gly Pro Pro Pro Glu Pro Phe Asn Gly
            420   425   430
Met Val His Ile Asn Thr Asp Thr Gln Phe Gly Ser Thr Val Asn Tyr
            435   440   445
Ser Cys Asn Glu Gly Phe Arg Leu Ile Gly Ser Pro Ser Thr Thr Cys
    450   455   460
Leu Val Ser Gly Asn Asn Val Thr Trp Asp Lys Lys Ala Pro Ile Cys
465   470   475   480
Glu Ile Ile Ser Cys Glu Pro Pro Pro Thr Ile Ser Asn Gly Asp Phe
                485   490   495
Tyr Ser Asn Asn Arg Thr Ser Phe His Asn Gly Thr Val Val Thr Tyr
            500   505   510
Gln Cys His Thr Gly Pro Asp Gly Glu Gln Leu Phe Glu Leu Val Gly
            515   520   525
Glu Arg Ser Ile Tyr Cys Thr Ser Lys Asp Asp Gln Val Gly Val Trp
    530   535   540
Ser Ser Pro Pro Pro Arg Cys Ile Ser Thr Asn Lys Cys Thr Ala Pro
545   550   555   560
Glu Val Glu Asn Ala Ile Arg Val Pro Gly Asn Arg Ser Phe Phe Thr

```
                    565                   570                        575
Leu Thr Glu Ile Ile Arg Phe Arg Cys Gln Pro Gly Phe Val Met Val
              580                   585                   590
Gly Ser His Thr Val Gln Cys Gln Thr Asn Gly Arg Trp Gly Pro Lys
              595                   600                   605
Leu Pro His Cys Ser Arg Val Cys Gln Pro Pro His Ile Leu His Gly
    610                   615                   620
Glu His Thr Leu Ser His Gln Asp Asn Phe Ser Pro Gly Gln Glu Val
625                   630                   635                   640
Phe Tyr Ser Cys Glu Pro Ser Tyr Asp Leu Arg Gly Ala Ala Ser Leu
              645                   650                   655
His Cys Thr Pro Gln Gly Asp Trp Ser Pro Glu Ala Pro Arg Cys Thr
              660                   665                   670
Val Lys Ser Cys Asp Asp Phe Leu Gly Gln Leu Pro His Gly Arg Val
              675                   680                   685
Leu Leu Pro Leu Asn Leu Gln Leu Gly Ala Lys Val Ser Phe Val Cys
    690                   695                   700
Asp Glu Gly Phe Arg Leu Lys Gly Arg Ser Ala Ser His Cys Val Leu
705                   710                   715                   720
Ala Gly Met Lys Ala Leu Trp Asn Ser Ser Val Pro Val Cys Glu Arg
              725                   730                   735
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<210> 65
<211> 738
<212> PRT
<213> Homo sapiens

<400> 65
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Met Arg Gly Pro Pro Ala Trp Pro Leu Arg Leu Leu Glu Pro Pro Ser
 1               5                   10                  15
Pro Ala Glu Pro Gly Arg Leu Leu Pro Val Ala Cys Val Trp Ala Ala
              20                  25                  30
Ala Ser Arg Val Pro Gly Ser Leu Ser Pro Phe Thr Gly Leu Arg Pro
              35                  40                  45
Ala Arg Leu Trp Gly Ala Gly Pro Ala Leu Leu Trp Gly Val Gly Ala
    50                  55                  60
Ala Arg Arg Trp Arg Ser Gly Cys Arg Gly Gly Pro Gly Ala Ser
65                  70                  75                  80
Arg Gly Val Leu Gly Leu Ala Arg Leu Leu Gly Leu Trp Ala Arg Gly
              85                  90                  95
Pro Gly Ser Cys Arg Cys Gly Ala Phe Ala Gly Pro Gly Ala Pro Arg
              100                 105                 110
Leu Pro Arg Ala Arg Phe Pro Gly Gly Pro Ala Ala Ala Ala Trp Ala
    115                 120                 125
Gly Asp Glu Ala Trp Arg Arg Gly Pro Ala Ala Pro Pro Gly Asp Lys
    130                 135                 140
Gly Arg Leu Arg Pro Ala Ala Ala Gly Leu Pro Glu Ala Arg Lys Leu
145                 150                 155                 160
Leu Gly Leu Ala Tyr Pro Glu Arg Arg Arg Leu Ala Ala Ala Val Gly
              165                 170                 175
Phe Leu Thr Met Ser Ser Val Ile Ser Met Ser Ala Pro Phe Phe Leu
              180                 185                 190
Gly Lys Ile Ile Asp Val Ile Tyr Thr Asn Pro Thr Val Asp Tyr Ser
              195                 200                 205
Asp Asn Leu Thr Arg Leu Cys Leu Gly Leu Ser Ala Val Phe Leu Cys
    210                 215                 220
Gly Ala Ala Ala Asn Ala Ile Arg Val Tyr Leu Met Gln Thr Ser Gly
225                 230                 235                 240
Gln Arg Ile Val Asn Arg Leu Arg Thr Ser Leu Phe Ser Ser Ile Leu
              245                 250                 255
Arg Gln Glu Val Ala Phe Phe Asp Lys Thr Arg Thr Gly Glu Leu Ile
              260                 265                 270
Asn Arg Leu Ser Ser Asp Thr Ala Leu Leu Gly Arg Ser Val Thr Glu
```

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              275                    280                    285
Asn Leu Ser Asp Gly Leu Arg Ala Gly Ala Gln Ala Ser Val Gly Ile
    290                    295                    300
Ser Met Met Phe Phe Val Ser Pro Asn Leu Ala Thr Phe Val Leu Ser
305                    310                    315                    320
Val Val Pro Pro Val Ser Ile Ile Ala Val Ile Tyr Gly Arg Tyr Leu
                325                    330                    335
Arg Lys Leu Thr Lys Val Thr Gln Asp Ser Leu Ala Gln Ala Thr Gln
            340                    345                    350
Leu Ala Glu Glu Arg Ile Gly Asn Val Arg Thr Val Arg Ala Phe Gly
        355                    360                    365
Lys Glu Met Thr Glu Ile Glu Lys Tyr Ala Ser Lys Val Asp His Val
    370                    375                    380
Met Gln Leu Ala Arg Lys Glu Ala Phe Ala Arg Ala Gly Phe Phe Gly
385                    390                    395                    400
Ala Thr Gly Leu Ser Gly Asn Leu Ile Val Leu Ser Val Leu Tyr Lys
                405                    410                    415
Gly Gly Leu Leu Met Gly Ser Ala His Met Thr Val Gly Glu Leu Ser
            420                    425                    430
Ser Phe Leu Met Tyr Ala Phe Trp Val Gly Ile Ser Ile Gly Gly Leu
        435                    440                    445
Ser Ser Phe Tyr Ser Glu Leu Met Lys Gly Leu Gly Ala Gly Gly Arg
    450                    455                    460
Leu Trp Glu Leu Leu Glu Arg Glu Pro Lys Leu Pro Phe Asn Glu Gly
465                    470                    475                    480
Val Ile Leu Asn Glu Lys Ser Phe Gln Gly Ala Leu Glu Phe Lys Asn
                485                    490                    495
Val His Phe Ala Tyr Pro Ala Arg Pro Glu Val Pro Ile Phe Gln Asp
            500                    505                    510
Phe Ser Leu Ser Ile Pro Ser Gly Ser Val Thr Ala Leu Val Gly Pro
        515                    520                    525
Ser Gly Ser Gly Lys Ser Thr Val Leu Ser Leu Leu Leu Arg Leu Tyr
    530                    535                    540
Asp Pro Ala Ser Gly Thr Ile Ser Leu Asp Gly His Asp Ile Arg Gln
545                    550                    555                    560
Leu Asn Pro Val Trp Leu Arg Ser Lys Ile Gly Thr Val Ser Gln Glu
                565                    570                    575
Pro Ile Leu Phe Ser Cys Ser Ile Ala Glu Asn Ile Ala Tyr Gly Ala
            580                    585                    590
Asp Asp Pro Ser Ser Val Thr Ala Glu Glu Ile Gln Arg Val Ala Glu
        595                    600                    605
Val Ala Asn Ala Val Ala Phe Ile Arg Asn Phe Pro Gln Gly Phe Asn
    610                    615                    620
Thr Val Val Gly Glu Lys Gly Val Leu Leu Ser Gly Gly Gln Lys Gln
625                    630                    635                    640
Arg Ile Ala Ile Ala Arg Ala Leu Leu Lys Asn Pro Lys Ile Leu Leu
                645                    650                    655
Leu Asp Glu Ala Thr Ser Ala Leu Asp Ala Glu Asn Glu Tyr Leu Val
            660                    665                    670
Gln Glu Ala Leu Asp Arg Leu Met Asp Gly Arg Thr Val Leu Val Ile
        675                    680                    685
Ala His Arg Leu Ser Thr Ile Lys Asn Ala Asn Met Val Ala Val Leu
    690                    695                    700
Asp Gln Gly Lys Ile Thr Glu Tyr Gly Lys His Glu Glu Leu Leu Ser
705                    710                    715                    720
Lys Pro Asn Gly Ile Tyr Arg Lys Leu Met Asn Lys Gln Ser Phe Ile
                725                    730                    735
Ser Ala
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<210> 66
<211> 1273
<212> PRT

<213> Homo sapiens

<400> 66

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Gly Ile Leu Thr Trp Tyr Ile Glu Ala Val His Pro Gly Met Tyr Gly
1               5               10              15
Leu Pro Arg Pro Trp Tyr Phe Pro Leu Gln Lys Ser Tyr Trp Leu Gly
            20              25              30
Ser Gly Arg Thr Glu Ala Trp Glu Trp Ser Trp Pro Trp Ala Arg Thr
        35              40              45
Pro Arg Leu Ser Val Met Glu Glu Asp Gln Ala Cys Ala Met Glu Ser
        50              55              60
Arg Arg Phe Glu Glu Thr Arg Gly Met Glu Glu Glu Pro Thr His Leu
65              70              75              80
Pro Leu Val Val Cys Val Asp Lys Leu Thr Lys Val Tyr Lys Asp Asp
                85              90              95
Lys Lys Leu Ala Leu Asn Lys Leu Ser Leu Asn Leu Tyr Glu Asn Gln
            100             105             110
Val Val Ser Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr His His
            115             120             125
Asn Val Leu Phe Asp Arg Leu Thr Val Glu Glu His Leu Trp Phe Tyr
    130             135             140
Ser Arg Leu Lys Ser Met Ala Gln Glu Glu Ile Arg Arg Glu Met Asp
145             150             155             160
Lys Met Ile Glu Asp Leu Glu Leu Ser Asn Lys Arg His Ser Leu Val
                165             170             175
Gln Thr Leu Ser Gly Gly Met Lys Arg Lys Leu Ser Val Ala Ile Ala
            180             185             190
Phe Val Gly Gly Ser Arg Ala Ile Ile Leu Asp Glu Pro Thr Ala Gly
        195             200             205
Val Asp Pro Tyr Ala Arg Arg Ala Ile Trp Asp Leu Ile Leu Lys Tyr
210             215             220
Lys Pro Gly Arg Thr Ile Leu Leu Ser Thr His His Met Asp Glu Ala
225             230             235             240
Asp Leu Leu Gly Asp Arg Ile Ala Ile Ile Ser His Gly Lys Leu Lys
                245             250             255
Cys Cys Gly Ser Pro Leu Phe Leu Lys Gly Thr Tyr Gly Asp Gly Tyr
            260             265             270
Arg Leu Thr Leu Val Lys Arg Pro Ala Glu Pro Gly Gly Pro Gln Glu
            275             280             285
Pro Gly Leu Ala Ser Ser Pro Pro Gly Arg Ala Pro Leu Ser Ser Cys
    290             295             300
Ser Glu Leu Gln Val Ser Gln Phe Ile Arg Lys His Val Ala Ser Cys
305             310             315             320
Leu Leu Val Ser Asp Thr Ser Thr Glu Leu Ser Tyr Ile Leu Pro Ser
            325             330             335
Glu Ala Ala Lys Lys Gly Ala Phe Glu Arg Leu Phe Gln His Leu Glu
            340             345             350
Arg Ser Leu Asp Ala Leu His Leu Ser Ser Phe Gly Leu Met Asp Thr
    355             360             365
Thr Leu Glu Glu Val Phe Leu Lys Val Ser Glu Glu Asp Gln Ser Leu
    370             375             380
Glu Asn Ser Glu Ala Asp Val Lys Glu Ser Arg Lys Asp Val Leu Pro
385             390             395             400
Gly Ala Glu Gly Pro Ala Ser Gly Glu Gly His Ala Gly Asn Leu Ala
            405             410             415
Arg Cys Ser Glu Leu Thr Gln Ser Gln Ala Ser Leu Gln Ser Ala Ser
            420             425             430
Ser Val Gly Ser Ala Arg Gly Asp Glu Gly Ala Gly Tyr Thr Asp Val
            435             440             445
Tyr Gly Asp Tyr Arg Pro Leu Phe Asp Asn Pro Gln Asp Pro Asp Asn
    450             455             460
Val Ser Leu Gln Glu Val Glu Ala Glu Ala Leu Ser Arg Val Gly Gln
465             470             475             480
```

Gly Ser Arg Lys Leu Asp Gly Gly Trp Leu Lys Val Arg Gln Phe His
            485   490   495
Gly Leu Leu Val Lys Arg Phe His Cys Ala Arg Arg Asn Ser Lys Ala
        500   505   510
Leu Phe Ser Gln Ile Leu Leu Pro Ala Phe Phe Val Cys Val Ala Met
        515   520   525
Thr Val Ala Leu Ser Val Pro Glu Ile Gly Asp Leu Pro Pro Leu Val
        530   535   540
Leu Ser Pro Ser Gln Tyr His Asn Tyr Thr Gln Pro Arg Gly Asn Phe
545   550   555   560
Ile Pro Tyr Ala Asn Glu Glu Arg Arg Glu Tyr Arg Arg His Pro Ala
            565   570   575
Gly Ala Ser Leu Val Gly Gly Ala Ser Glu Gly Ala Gly Thr Ala Leu
        580   585   590
Val Gly Gln Ala Gly Glu Gly Ala Gly Leu Ala Arg Gly Gly Asp Trp
        595   600   605
Gln Pro His Leu Thr Leu Ile Trp Gly Arg Gly Gly Glu Asp Leu Gly
    610   615   620
Pro Glu Ser Ala Ala Pro Ala Pro Pro Cys Ala Gly Ile Thr Val Thr
625   630   635   640
Asn His Pro Met Asn Lys Thr Ser Ala Ser Leu Ser Leu Asp Tyr Leu
            645   650   655
Leu Gln Gly Thr Asp Val Val Ile Ala Ile Phe Ile Ile Val Ala Met
        660   665   670
Ser Phe Val Pro Ala Ser Phe Val Val Phe Leu Val Ala Glu Lys Ser
        675   680   685
Thr Lys Ala Lys His Leu Gln Phe Val Ser Gly Cys Asn Pro Ile Ile
    690   695   700
Tyr Trp Leu Ala Asn Tyr Val Trp Asp Met Leu Asn Tyr Leu Val Pro
705   710   715   720
Ala Thr Cys Cys Val Ile Ile Leu Phe Val Phe Asp Leu Pro Ala Tyr
            725   730   735
Thr Ser Pro Thr Asn Phe Pro Ala Val Leu Ser Leu Phe Leu Leu Tyr
            740   745   750
Gly Trp Ser Ile Thr Pro Ile Met Tyr Pro Ala Ser Phe Trp Phe Glu
        755   760   765
Val Pro Ser Ser Ala Tyr Val Phe Leu Ile Val Ile Asn Leu Phe Ile
    770   775   780
Gly Ile Thr Ala Thr Val Ala Thr Phe Leu Leu Gln Leu Phe Glu His
785   790   795   800
Asp Lys Asp Leu Lys Val Val Asn Ser Tyr Leu Lys Ser Cys Phe Leu
            805   810   815
Ile Phe Pro Asn Tyr Asn Leu Gly His Gly Leu Met Glu Met Ala Tyr
            820   825   830
Asn Glu Tyr Ile Asn Glu Tyr Tyr Ala Lys Ile Gly Gln Phe Asp Lys
        835   840   845
Met Lys Ser Pro Phe Glu Trp Asp Ile Val Thr Arg Gly Leu Val Ala
    850   855   860
Met Ala Val Glu Gly Val Val Gly Phe Leu Leu Thr Ile Met Cys Gln
865   870   875   880
Tyr Asn Phe Leu Arg Arg Pro Gln Arg Met Pro Val Ser Thr Lys Pro
            885   890   895
Val Glu Asp Asp Val Asp Val Ala Ser Glu Arg Gln Arg Val Leu Arg
        900   905   910
Gly Asp Ser Asp Asn Asp Met Cys Phe Gly Leu Leu Gly Val Asn Gly
        915   920   925
Ala Gly Lys Thr Ser Thr Phe Lys Met Leu Thr Gly Asp Glu Ser Thr
    930   935   940
Thr Gly Gly Glu Ala Phe Val Asn Gly His Ser Val Leu Lys Glu Leu
945   950   955   960
Leu Gln Val Gln Gln Ser Leu Gly Tyr Cys Pro Gln Cys Asp Ala Leu
            965   970   975
Phe Asp Glu Leu Thr Ala Arg Glu His Leu Gln Leu Tyr Thr Arg Leu

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            980                    985                   990
Arg Gly Ile Ser Trp Lys Asp Glu Ala Arg Val Val Lys Trp Ala Leu
            995                  1000                  1005
Glu Lys Leu Glu Leu Thr Lys Tyr Ala Asp Lys Pro Ala Gly Thr Tyr
       1010                  1015                  1020
Ser Gly Gly Asn Lys Arg Lys Leu Ser Thr Ala Ile Ala Leu Ile Gly
  1025                  1030                  1035                  1040
Tyr Pro Ala Phe Ile Phe Leu Asp Glu Pro Thr Thr Gly Met Asp Pro
                 1045                  1050                  1055
Lys Ala Arg Arg Phe Leu Trp Asn Leu Ile Leu Asp Leu Ile Lys Thr
            1060                  1065                  1070
Gly Arg Ser Val Val Leu Thr Ser His Ser Met Glu Glu Cys Glu Ala
            1075                  1080                  1085
Leu Cys Thr Arg Leu Ala Ile Met Val Asn Gly Arg Leu Arg Cys Leu
       1090                  1095                  1100
Gly Ser Ile Gln His Leu Lys Asn Arg Phe Gly Asp Gly Tyr Met Ile
  1105                  1110                  1115                  1120
Thr Val Arg Thr Lys Ser Ser Gln Ser Val Lys Asp Val Val Arg Phe
                 1125                  1130                  1135
Phe Asn Arg Asn Phe Pro Glu Ala Met Leu Lys Glu Arg His His Thr
            1140                  1145                  1150
Lys Val Gln Tyr Gln Leu Lys Ser Glu His Ile Ser Leu Ala Gln Val
            1155                  1160                  1165
Phe Ser Lys Met Glu Gln Val Ser Gly Val Leu Gly Ile Glu Asp Tyr
       1170                  1175                  1180
Ser Val Ser Gln Thr Thr Leu Asp Asn Val Phe Val Asn Phe Ala Lys
  1185                  1190                  1195                  1200
Lys Gln Ser Asp Asn Leu Glu Gln Gln Glu Thr Glu Pro Pro Ser Ala
                 1205                  1210                  1215
Leu Gln Ser Pro Leu Gly Cys Leu Leu Ser Leu Leu Arg Pro Arg Ser
            1220                  1225                  1230
Ala Pro Thr Glu Leu Arg Ala Leu Val Ala Asp Glu Pro Glu Asp Leu
            1235                  1240                  1245
Asp Thr Glu Asp Glu Gly Leu Ile Ser Phe Glu Glu Glu Arg Ala Gln
       1250                  1255                  1260
Leu Ser Phe Asn Thr Asp Thr Leu Cys
  1265                  1270
```

<210> 67
<211> 1479
<212> PRT
<213> Homo sapiens

<400> 67
```
Met Gly Pro Gly Arg Pro Ala Pro Ala Pro Trp Pro Arg His Leu Leu
1              5                  10                  15
Arg Cys Val Leu Leu Leu Gly Cys Leu His Leu Gly Arg Pro Gly Ala
            20                  25                  30
Pro Gly Asp Ala Ala Leu Pro Glu Pro Asn Ile Phe Leu Ile Phe Ser
       35                  40                  45
His Gly Leu Gln Gly Cys Leu Glu Ala Gln Gly Gly Gln Val Arg Val
  50                  55                  60
Thr Pro Ala Cys Asn Thr Ser Leu Pro Ala Gln Arg Trp Lys Trp Val
65                  70                  75                  80
Ser Arg Asn Arg Leu Phe Asn Leu Gly Thr Met Gln Cys Leu Gly Thr
                 85                  90                  95
Gly Trp Pro Gly Thr Asn Thr Thr Ala Ser Leu Gly Met Tyr Glu Cys
            100                  105                  110
Asp Arg Glu Ala Leu Asn Leu Arg Trp His Cys Arg Thr Leu Gly Asp
       115                  120                  125
Gln Leu Ser Leu Leu Leu Gly Ala Arg Thr Ser Asn Ile Ser Lys Pro
  130                  135                  140
Gly Thr Leu Glu Arg Gly Asp Gln Thr Arg Ser Gly Gln Trp Arg Ile
```

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     145                    150                      155                       160
Tyr Gly Ser Glu Glu Asp Leu Cys Ala Leu Pro Tyr His Glu Val Tyr
                     165                   170                   175
Thr Ile Gln Gly Asn Ser His Gly Lys Pro Cys Thr Ile Pro Phe Lys
                 180                   185                   190
Tyr Asp Asn Gln Trp Phe His Gly Cys Thr Ser Thr Gly Arg Glu Asp
             195                   200                   205
Gly His Leu Trp Cys Ala Thr Thr Gln Asp Tyr Gly Lys Asp Glu Arg
         210                   215                   220
Trp Gly Phe Cys Pro Ile Lys Ser Asn Asp Cys Glu Thr Phe Trp Asp
225                   230                   235                   240
Lys Asp Gln Leu Thr Asp Ser Cys Tyr Gln Phe Asn Phe Gln Ser Thr
                 245                   250                   255
Leu Ser Trp Arg Glu Ala Trp Ala Ser Cys Glu Gln Gln Gly Ala Asp
             260                   265                   270
Leu Leu Ser Ile Thr Glu Ile His Glu Gln Thr Tyr Ile Asn Gly Leu
         275                   280                   285
Leu Thr Gly Tyr Ser Ser Thr Leu Trp Ile Gly Leu Asn Asp Leu Asp
     290                   295                   300
Thr Ser Gly Gly Trp Gln Trp Ser Asp Asn Ser Pro Leu Lys Tyr Leu
305                   310                   315                   320
Asn Trp Glu Ser Asp Gln Pro Asp Asn Pro Ser Glu Glu Asn Cys Gly
                 325                   330                   335
Val Ile Arg Thr Glu Ser Ser Gly Gly Trp Gln Asn Arg Asp Cys Ser
             340                   345                   350
Ile Ala Leu Pro Tyr Val Cys Lys Lys Lys Pro Asn Ala Thr Ala Glu
         355                   360                   365
Pro Thr Pro Pro Asp Arg Trp Ala Asn Val Lys Val Glu Cys Glu Pro
     370                   375                   380
Ser Trp Gln Pro Phe Gln Gly His Cys Tyr Arg Leu Gln Ala Glu Lys
385                   390                   395                   400
Arg Ser Trp Gln Glu Ser Lys Lys Ala Cys Leu Arg Gly Gly Gly Asp
                 405                   410                   415
Leu Val Ser Ile His Ser Met Ala Glu Leu Glu Phe Ile Thr Lys Gln
             420                   425                   430
Ile Lys Gln Glu Val Glu Glu Leu Trp Ile Gly Leu Asn Asp Leu Lys
         435                   440                   445
Leu Gln Met Asn Phe Glu Trp Ser Asp Gly Ser Leu Val Ser Phe Thr
     450                   455                   460
His Trp His Pro Phe Glu Pro Asn Asn Phe Arg Asp Ser Leu Glu Asp
465                   470                   475                   480
Cys Val Thr Ile Trp Gly Pro Glu Gly Arg Trp Asn Asp Ser Pro Cys
                 485                   490                   495
Asn Gln Ser Leu Pro Ser Ile Cys Lys Lys Ala Gly Gln Leu Ser Gln
             500                   505                   510
Gly Ala Ala Glu Glu Asp His Gly Cys Arg Lys Gly Trp Thr Trp His
         515                   520                   525
Ser Pro Ser Cys Tyr Trp Leu Gly Glu Asp Gln Val Thr Tyr Ser Glu
     530                   535                   540
Ala Arg Arg Leu Cys Thr Asp His Gly Ser Gln Leu Val Thr Ile Thr
545                   550                   555                   560
Asn Arg Phe Glu Gln Ala Phe Val Ser Ser Leu Ile Tyr Asn Trp Glu
                 565                   570                   575
Gly Glu Tyr Phe Trp Thr Ala Leu Gln Asp Leu Asn Ser Thr Gly Ser
             580                   585                   590
Phe Phe Trp Leu Ser Gly Asp Glu Val Met Tyr Thr His Trp Asn Arg
         595                   600                   605
Asp Gln Pro Gly Tyr Ser Arg Gly Gly Cys Val Ala Leu Ala Thr Gly
     610                   615                   620
Ser Ala Met Gly Leu Trp Glu Val Lys Asn Cys Thr Ser Phe Arg Ala
625                   630                   635                   640
Arg Tyr Ile Cys Arg Gln Ser Leu Gly Thr Pro Val Thr Pro Glu Leu
                 645                   650                   655
```

Pro Gly Pro Asp Pro Thr Pro Ser Leu Thr Gly Ser Cys Pro Gln Gly
            660   665   670
Trp Ala Ser Asp Thr Lys Leu Arg Tyr Cys Tyr Lys Val Phe Ser Ser
            675   680   685
Glu Arg Leu Gln Asp Lys Lys Ser Trp Val Gln Ala Gln Gly Ala Cys
    690   695   700
Gln Glu Leu Gly Ala Gln Leu Leu Ser Leu Ala Ser Tyr Glu Glu Glu
705   710   715   720
His Phe Val Ala Asn Met Leu Asn Lys Ile Phe Gly Glu Ser Glu Pro
                725   730   735
Glu Ile His Glu Gln His Trp Phe Trp Ile Gly Leu Asn Arg Arg Asp
            740   745   750
Pro Arg Gly Gly Gln Ser Trp Arg Trp Ser Asp Gly Val Gly Phe Ser
            755   760   765
Tyr His Asn Phe Asp Arg Ser Arg His Asp Asp Asp Ile Arg Gly
    770   775   780
Cys Ala Val Leu Asp Leu Ala Ser Leu Gln Trp Val Ala Met Gln Cys
785   790   795   800
Asp Thr Gln Leu Asp Trp Ile Cys Lys Ile Pro Arg Gly Thr Asp Val
                805   810   815
Arg Glu Pro Asp Asp Ser Pro Gln Gly Arg Arg Glu Trp Leu Arg Phe
            820   825   830
Gln Glu Ala Glu Tyr Lys Phe Phe Glu His His Ser Thr Trp Ala Gln
            835   840   845
Ala Gln Arg Ile Cys Thr Trp Phe Gln Ala Glu Leu Thr Ser Val His
    850   855   860
Ser Gln Ala Glu Leu Asp Phe Leu Ser His Asn Leu Gln Lys Phe Ser
865   870   875   880
Arg Ala Gln Glu Gln His Trp Trp Ile Gly Leu His Thr Ser Glu Ser
            885   890   895
Asp Gly Arg Phe Arg Trp Thr Asp Gly Ser Ile Ile Asn Phe Ile Ser
            900   905   910
Trp Ala Pro Gly Lys Pro Arg Pro Val Gly Lys Asp Lys Lys Cys Val
            915   920   925
Tyr Met Thr Ala Ser Arg Glu Asp Trp Gly Asp Gln Arg Cys Leu Thr
    930   935   940
Ala Leu Pro Tyr Ile Cys Lys Arg Ser Asn Val Thr Lys Glu Thr Gln
945   950   955   960
Pro Pro Asp Leu Pro Thr Thr Ala Leu Gly Gly Cys Pro Ser Asp Trp
                965   970   975
Ile Gln Phe Leu Asn Lys Cys Phe Gln Val Gln Gly Gln Glu Pro Gln
            980   985   990
Ser Arg Val Lys Trp Ser Glu Ala Gln Phe Ser Cys Glu Gln Gln Glu
    995   1000   1005
Ala Gln Leu Val Thr Ile Thr Asn Pro Leu Glu Gln Ala Phe Ile Thr
    1010   1015   1020
Ala Ser Leu Pro Asn Val Thr Phe Asp Leu Trp Ile Gly Leu His Ala
1025   1030   1035   1040
Ser Gln Arg Asp Phe Gln Trp Val Glu Gln Glu Pro Leu Met Tyr Ala
            1045   1050   1055
Asn Trp Ala Pro Gly Glu Pro Ser Gly Pro Ser Pro Ala Pro Ser Gly
            1060   1065   1070
Asn Lys Pro Thr Ser Cys Ala Val Val Leu His Ser Pro Ser Ala His
    1075   1080   1085
Phe Thr Gly Arg Trp Asp Asp Arg Ser Cys Thr Glu Glu Thr His Gly
    1090   1095   1100
Phe Ile Cys Gln Lys Gly Thr Asp Pro Ser Leu Ser Pro Ser Pro Ala
1105   1110   1115   1120
Ala Leu Pro Pro Ala Pro Gly Thr Glu Leu Ser Tyr Leu Asn Gly Thr
            1125   1130   1135
Phe Arg Leu Leu Gln Lys Pro Leu Arg Trp His Asp Ala Leu Leu Leu
            1140   1145   1150
Cys Glu Ser His Asn Ala Ser Leu Ala Tyr Val Pro Asp Pro Tyr Thr

```
            1155                1160                1165
Gln Ala Phe Leu Thr Gln Ala Ala Arg Gly Leu Arg Thr Pro Leu Trp
    1170                1175                1180
Ile Gly Leu Ala Gly Glu Glu Gly Ser Arg Arg Tyr Ser Trp Val Ser
1185                1190                1195                1200
Glu Glu Pro Leu Asn Tyr Val Gly Trp Gln Asp Gly Glu Pro Gln Gln
                1205                1210                1215
Pro Gly Gly Cys Thr Tyr Val Asp Val Asp Gly Ala Trp Arg Thr Thr
            1220                1225                1230
Ser Cys Asp Thr Lys Leu Gln Gly Ala Val Cys Gly Val Ser Ser Gly
            1235                1240                1245
Pro Pro Pro Pro Arg Arg Ile Ser Tyr His Gly Ser Cys Pro Gln Gly
        1250                1255                1260
Leu Ala Asp Ser Ala Trp Ile Pro Phe Arg Glu His Cys Tyr Ser Phe
1265                1270                1275                1280
His Met Glu Leu Leu Gly His Lys Glu Ala Arg Gln Arg Cys Gln
                1285                1290                1295
Arg Ala Gly Gly Ala Val Leu Ser Ile Leu Asp Glu Met Glu Asn Val
            1300                1305                1310
Phe Val Trp Glu His Leu Gln Ser Tyr Glu Gly Gln Ser Arg Gly Ala
            1315                1320                1325
Trp Leu Gly Met Asn Phe Asn Pro Lys Gly Gly Thr Leu Val Trp Gln
    1330                1335                1340
Asp Asn Thr Ala Val Asn Tyr Ser Asn Trp Gly Pro Pro Gly Leu Gly
1345                1350                1355                1360
Pro Ser Met Leu Ser His Asn Ser Cys Tyr Trp Ile Gln Ser Asn Ser
                1365                1370                1375
Gly Leu Trp Arg Pro Gly Ala Cys Thr Asn Ile Thr Met Gly Val Val
            1380                1385                1390
Cys Lys Leu Pro Arg Ala Glu Gln Ser Ser Phe Ser Pro Ser Ala Leu
            1395                1400                1405
Pro Glu Asn Pro Ala Ala Leu Val Val Val Leu Met Ala Val Leu Leu
    1410                1415                1420
Leu Leu Ala Leu Leu Thr Ala Ala Leu Ile Leu Tyr Arg Arg Arg Gln
1425                1430                1435                1440
Ser Ile Glu Arg Gly Ala Phe Glu Gly Ala Arg Tyr Ser Arg Ser Ser
            1445                1450                1455
Ser Ser Pro Thr Glu Ala Thr Glu Lys Asn Ile Leu Val Ser Asp Met
            1460                1465                1470
Glu Met Asn Glu Gln Gln Glu
        1475
```

`<210> 68`
`<211> 583`
`<212> PRT`
`<213> Homo sapiens`

`<400> 68`

```
Met Lys Tyr Ile Leu Val Thr Gly Gly Val Ile Ser Gly Ile Gly Lys
 1               5                  10                  15
Gly Ile Ile Ala Ser Ser Ile Gly Thr Ile Leu Lys Ser Cys Gly Leu
        20                  25                  30
Arg Val Thr Ala Ile Lys Ile Asp Pro Tyr Ile Asn Ile Asp Ala Gly
        35                  40                  45
Thr Phe Ser Pro Tyr Glu His Gly Glu Val Phe Val Leu Asn Asp Gly
    50                  55                  60
Gly Glu Val Asp Leu Asp Leu Gly Asn Tyr Glu Arg Phe Leu Asp Ile
65                  70                  75                  80
Asn Leu Tyr Lys Asp Asn Asn Ile Thr Thr Gly Lys Ile Tyr Gln His
                85                  90                  95
Val Ile Asn Lys Glu Arg Arg Gly Asp Tyr Leu Gly Lys Thr Val Gln
            100                 105                 110
Val Val Pro His Ile Thr Asp Ala Val Gln Glu Trp Val Met Asn Gln
```

```
            115                    120                    125
Ala Lys Val Pro Val Asp Gly Asn Lys Glu Glu Pro Gln Ile Cys Leu
    130                    135                    140
Gly Gly Thr Ile Gly Asp Ile Glu Gly Met Pro Phe Val Glu Ala Phe
145                    150                    155                    160
Arg Gln Phe Gln Phe Lys Ala Lys Arg Glu Asn Phe Cys Asn Ile His
            165                    170                    175
Val Ser Leu Val Pro Gln Leu Ser Ala Thr Gly Glu Gln Lys Thr Lys
            180                    185                    190
Pro Thr Gln Asn Ser Val Arg Ala Leu Arg Gly Leu Gly Leu Ser Pro
            195                    200                    205
Asp Leu Ile Val Cys Arg Ser Ser Thr Pro Ile Glu Met Ala Val Lys
    210                    215                    220
Glu Lys Ile Ser Met Phe Cys His Val Asn Pro Glu Gln Val Ile Cys
225                    230                    235                    240
Ile His Asp Val Ser Ser Thr Tyr Arg Val Pro Val Leu Leu Glu Glu
            245                    250                    255
Gln Ser Ile Val Lys Tyr Phe Lys Glu Arg Leu His Leu Pro Ile Gly
            260                    265                    270
Asp Ser Ala Ser Asn Leu Leu Phe Lys Trp Arg Asn Met Ala Asp Arg
            275                    280                    285
Tyr Glu Arg Leu Gln Lys Ile Cys Ser Ile Ala Leu Val Gly Lys Tyr
    290                    295                    300
Thr Lys Leu Arg Asp Cys Tyr Ala Ser Val Phe Lys Ala Leu Glu His
305                    310                    315                    320
Ser Ala Leu Ala Ile Asn His Lys Leu Asn Leu Met Tyr Ile Asp Ser
            325                    330                    335
Ile Asp Leu Glu Lys Ile Thr Glu Thr Glu Asp Pro Val Lys Phe His
            340                    345                    350
Glu Ala Trp Gln Lys Leu Cys Lys Ala Asp Gly Ile Leu Val Pro Gly
            355                    360                    365
Gly Phe Gly Ile Arg Gly Thr Leu Gly Lys Leu Gln Ala Ile Ser Trp
    370                    375                    380
Ala Arg Thr Lys Lys Ile Pro Phe Leu Gly Val Cys Leu Gly Met Gln
385                    390                    395                    400
Leu Ala Val Ile Glu Phe Ala Arg Asn Cys Leu Asn Leu Lys Asp Ala
            405                    410                    415
Asp Ser Thr Glu Phe Arg Pro Asn Ala Pro Val Pro Leu Val Ile Asp
            420                    425                    430
Met Pro Glu His Asn Pro Gly Asn Leu Gly Gly Thr Met Arg Leu Gly
            435                    440                    445
Ile Arg Arg Thr Val Phe Lys Thr Glu Asn Ser Ile Leu Arg Lys Leu
    450                    455                    460
Tyr Gly Asp Val Pro Phe Ile Glu Glu Arg His Arg His Arg Phe Glu
465                    470                    475                    480
Val Asn Pro Asn Leu Ile Lys Gln Phe Glu Gln Asn Asp Leu Ser Phe
            485                    490                    495
Val Gly Gln Asp Val Asp Gly Asp Arg Met Glu Ile Ile Glu Leu Ala
            500                    505                    510
Asn His Pro Tyr Phe Val Gly Val Gln Phe His Pro Glu Phe Ser Ser
            515                    520                    525
Arg Pro Met Lys Pro Ser Pro Pro Tyr Leu Gly Leu Leu Leu Ala Ala
    530                    535                    540
Thr Gly Asn Leu Asn Ala Tyr Leu Gln Gln Gly Cys Lys Leu Ser Ser
545                    550                    555                    560
Ser Asp Arg Tyr Ser Asp Ala Ser Asp Asp Ser Phe Ser Glu Pro Arg
            565                    570                    575
Ile Ala Glu Leu Glu Ile Ser
            580
```

<210> 69
<211> 1241
<212> PRT

<213> Homo sapiens

<400> 69

```
Ser Pro Ile Leu Cys Gly Ala Ala Thr Ala Leu Asn Cys Ser Leu Cys
1               5               10              15
Pro Gln Asp Ser Asn Leu Ser Val His Thr Glu Asn Pro Asp Leu Thr
        20              25              30
Pro Cys Phe Gln Asn Ser Leu Leu Ala Trp Val Pro Cys Ile Tyr Leu
    35              40              45
Trp Val Ala Leu Pro Cys Tyr Leu Leu Tyr Leu Arg His His Cys Arg
50              55              60
Gly Tyr Ile Ile Leu Ser His Leu Ser Lys Leu Lys Met Val Leu Gly
65              70              75              80
Val Leu Leu Trp Cys Val Ser Trp Ala Asp Leu Phe Tyr Ser Phe His
            85              90              95
Gly Leu Val His Gly Arg Ala Pro Ala Pro Val Phe Phe Val Thr Pro
        100             105             110
Leu Val Val Gly Val Thr Met Leu Leu Ala Thr Leu Leu Ile Gln Tyr
    115             120             125
Glu Arg Leu Gln Gly Val Gln Ser Ser Gly Val Leu Ile Ile Phe Trp
    130             135             140
Phe Leu Cys Val Val Cys Ala Ile Val Pro Phe Arg Ser Lys Ile Leu
145             150             155             160
Leu Ala Lys Ala Glu Gly Glu Ile Ser Asp Pro Phe Arg Phe Thr Thr
            165             170             175
Phe Tyr Ile His Phe Ala Leu Val Leu Ser Ala Leu Ile Leu Ala Cys
        180             185             190
Phe Arg Glu Lys Pro Pro Phe Phe Ser Ala Lys Asn Val Asp Pro Asn
    195             200             205
Pro Tyr Pro Glu Thr Ser Ala Gly Phe Leu Ser Arg Leu Phe Phe Trp
210             215             220
Trp Phe Thr Lys Met Ala Ile Tyr Gly Tyr Arg His Pro Leu Glu Glu
225             230             235             240
Lys Asp Leu Trp Ser Leu Lys Glu Glu Asp Arg Ser Gln Met Val Val
            245             250             255
Gln Gln Leu Leu Glu Ala Trp Arg Lys Gln Glu Lys Gln Thr Ala Arg
        260             265             270
His Lys Ala Ser Ala Ala Pro Gly Lys Asn Ala Ser Gly Glu Asp Glu
    275             280             285
Val Leu Leu Gly Ala Arg Pro Arg Pro Arg Lys Pro Ser Phe Leu Lys
    290             295             300
Ala Leu Leu Ala Thr Phe Gly Ser Ser Phe Leu Ile Ser Ala Cys Phe
305             310             315             320
Lys Leu Ile Gln Asp Leu Leu Ser Phe Ile Asn Pro Gln Leu Leu Ser
            325             330             335
Ile Leu Ile Arg Phe Ile Ser Asn Pro Met Ala Pro Ser Trp Trp Gly
        340             345             350
Phe Leu Val Ala Gly Leu Met Phe Leu Cys Ser Met Met Gln Ser Leu
        355             360             365
Ile Leu Gln His Tyr Tyr His Tyr Ile Phe Val Thr Gly Val Lys Phe
    370             375             380
Arg Thr Gly Ile Met Gly Val Ile Tyr Arg Lys Ala Leu Val Ile Thr
385             390             395             400
Asn Ser Val Lys Arg Ala Ser Thr Val Gly Glu Ile Val Asn Leu Met
            405             410             415
Ser Val Asp Ala Gln Arg Phe Met Asp Leu Ala Pro Phe Leu Asn Leu
        420             425             430
Leu Trp Ser Ala Pro Leu Gln Ile Ile Leu Ala Ile Tyr Phe Leu Trp
    435             440             445
Gln Asn Leu Gly Pro Ser Val Leu Ala Gly Val Ala Phe Met Val Leu
    450             455             460
Leu Ile Pro Leu Asn Gly Ala Val Ala Val Lys Met Arg Ala Phe Gln
465             470             475             480
```

Val Lys Gln Met Lys Leu Lys Asp Ser Arg Ile Lys Leu Met Ser Glu
            485   490   495

Ile Leu Asn Gly Ile Lys Val Leu Lys Leu Tyr Ala Trp Glu Pro Ser
            500   505   510

Phe Leu Lys Gln Val Glu Gly Ile Arg Gln Gly Glu Leu Gln Leu Leu
            515   520   525

Arg Thr Ala Ala Tyr Leu His Thr Thr Thr Thr Phe Thr Trp Met Cys
        530   535   540

Ser Pro Phe Leu Val Thr Leu Ile Thr Leu Trp Val Tyr Val Tyr Val
545   550   555   560

Asp Pro Asn Asn Val Leu Asp Ala Glu Lys Ala Phe Val Ser Val Ser
            565   570   575

Leu Phe Asn Ile Leu Arg Leu Pro Leu Asn Met Leu Pro Gln Leu Ile
            580   585   590

Ser Asn Leu Thr Gln Ala Ser Val Ser Leu Lys Arg Ile Gln Gln Phe
            595   600   605

Leu Ser Gln Glu Glu Leu Asp Pro Gln Ser Val Glu Arg Lys Thr Ile
        610   615   620

Ser Pro Gly Tyr Ala Ile Thr Ile His Ser Gly Thr Phe Thr Trp Ala
625   630   635   640

Gln Asp Leu Pro Pro Thr Leu His Ser Leu Asp Ile Gln Val Pro Lys
            645   650   655

Gly Ala Leu Val Ala Val Val Gly Pro Val Gly Cys Gly Lys Ser Ser
            660   665   670

Leu Val Ser Ala Leu Leu Gly Glu Met Glu Lys Leu Glu Gly Lys Val
            675   680   685

His Met Lys Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln
            690   695   700

Asn Cys Thr Leu Gln Glu Asn Val Leu Phe Gly Lys Ala Leu Asn Pro
705   710   715   720

Lys Arg Tyr Gln Gln Thr Leu Glu Ala Cys Ala Leu Leu Ala Asp Leu
            725   730   735

Glu Met Leu Pro Gly Gly Asp Gln Thr Glu Ile Gly Glu Lys Gly Ile
            740   745   750

Asn Leu Ser Gly Gly Gln Arg Gln Arg Val Ser Leu Ala Arg Ala Val
            755   760   765

Tyr Ser Asp Ala Asp Ile Phe Leu Leu Asp Asp Pro Leu Ser Ala Val
            770   775   780

Asp Ser His Val Ala Lys His Ile Phe Asp His Val Ile Gly Pro Glu
785   790   795   800

Gly Val Leu Ala Gly Lys Thr Arg Val Leu Val Thr His Gly Ile Ser
            805   810   815

Phe Leu Pro Gln Thr Asp Phe Ile Ile Val Leu Ala Asp Gly Gln Val
            820   825   830

Ser Glu Met Gly Pro Tyr Pro Ala Leu Leu Gln Arg Asn Gly Ser Phe
            835   840   845

Ala Asn Phe Leu Cys Asn Tyr Ala Pro Asp Glu Asp Gln Gly His Leu
        850   855   860

Glu Asp Ser Trp Thr Ala Leu Glu Gly Ala Glu Asp Lys Glu Ala Leu
865   870   875   880

Leu Ile Glu Asp Thr Leu Ser Asn His Thr Asp Leu Thr Asp Asn Asp
            885   890   895

Pro Val Thr Tyr Val Val Gln Lys Gln Phe Met Arg Gln Leu Ser Ala
            900   905   910

Leu Ser Ser Asp Gly Glu Gly Gln Gly Arg Pro Val Pro Arg Arg His
            915   920   925

Leu Gly Pro Ser Glu Lys Val Gln Val Thr Glu Ala Lys Ala Asp Gly
        930   935   940

Ala Leu Thr Gln Glu Glu Lys Ala Ala Ile Gly Thr Val Glu Leu Ser
945   950   955   960

Val Phe Trp Asp Tyr Ala Lys Ala Val Gly Leu Cys Thr Thr Leu Ala
            965   970   975

Ile Cys Leu Leu Tyr Val Gly Gln Ser Ala Ala Ala Ile Gly Ala Asn

```
                980                    985                   990
Val Trp Leu Ser Ala Trp Thr Asn Asp Ala Met Ala Asp Ser Arg Gln
            995                  1000                  1005
Asn Asn Thr Ser Leu Arg Leu Gly Val Tyr Ala Ala Leu Gly Ile Leu
      1010                  1015                  1020
Gln Gly Phe Leu Val Met Leu Ala Ala Met Ala Met Ala Ala Gly Gly
1025                  1030                  1035                  1040
Ile Gln Ala Ala Arg Val Leu His Gln Ala Leu Leu His Asn Lys Ile
                1045                  1050                  1055
Arg Ser Pro Gln Ser Phe Phe Asp Thr Thr Pro Ser Gly Arg Ile Leu
            1060                  1065                  1070
Asn Cys Phe Ser Lys Asp Ile Tyr Val Val Asp Glu Val Leu Ala Pro
            1075                  1080                  1085
Val Ile Leu Met Leu Leu Asn Ser Phe Phe Asn Ala Ile Ser Thr Leu
      1090                  1095                  1100
Val Val Ile Met Ala Ser Thr Pro Leu Phe Thr Val Val Ile Leu Pro
1105                  1110                  1115                  1120
Leu Ala Val Leu Tyr Thr Leu Val Gln Arg Phe Tyr Ala Ala Thr Ser
                1125                  1130                  1135
Arg Gln Leu Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Ile Tyr Ser
            1140                  1145                  1150
His Phe Ser Glu Thr Val Thr Gly Ala Ser Val Ile Arg Ala Tyr Asn
            1155                  1160                  1165
Arg Ser Arg Asp Phe Glu Ile Ile Ser Asp Thr Lys Val Asp Ala Asn
      1170                  1175                  1180
Gln Arg Ser Cys Tyr Pro Tyr Ile Ile Ser Asn Arg Ser Glu Ala Ala
1185                  1190                  1195                  1200
Ser Leu Ala Pro Cys Ser Ser Arg Asn Ser Gln Gln Ala Leu Trp Cys
            1205                  1210                  1215
Ser Gly Ser Leu Ser Leu Leu Ser Pro Lys Gln Lys Thr Gly Pro Ala
            1220                  1225                  1230
Leu Pro Leu Pro His Phe Leu Leu Ile
      1235                  1240
```

<210> 70
<211> 573
<212> PRT
<213> Homo sapiens

<400> 70

```
Ala Phe His Gln Gly Ser Leu Ile Leu Cys Leu Ala Leu Gln Ser Asp
1                 5                 10                   15
Arg Leu Leu Ile Lys Gly Gly Arg Ile Ile Asn Asp Asp Gln Ser Leu
            20                  25                  30
Tyr Ala Asp Val Tyr Leu Glu Asp Gly Leu Ile Lys Gln Ile Gly Glu
      35                  40                  45
Asn Leu Ile Val Pro Gly Gly Val Lys Thr Ile Glu Ala Asn Gly Arg
      50                  55                  60
Met Val Ile Pro Gly Gly Ile Asp Val Asn Thr Tyr Leu Gln Lys Pro
65                  70                  75                  80
Ser Gln Gly Met Thr Ala Ala Asp Asp Phe Phe Gln Gly Thr Arg Ala
                85                  90                  95
Ala Leu Val Gly Gly Thr Thr Met Ile Ile Asp His Val Val Pro Glu
            100                 105                 110
Pro Gly Ser Ser Leu Leu Thr Ser Phe Glu Lys Trp His Glu Ala Ala
      115                 120                 125
Asp Thr Lys Ser Cys Cys Asp Tyr Ser Leu His Val Asp Ile Thr Ser
      130                 135                 140
Trp Tyr Asp Gly Val Arg Glu Glu Leu Glu Val Leu Val Gln Asp Lys
145                 150                 155                 160
Gly Val Asn Ser Phe Gln Val Tyr Met Ala Tyr Lys Asp Val Tyr Gln
                165                 170                 175
Met Ser Asp Ser Gln Leu Tyr Glu Ala Phe Thr Phe Leu Lys Gly Leu
```

```
                180                         185                         190
Gly Ala Val Ile Leu Val His Ala Glu Asn Gly Asp Leu Ile Ala Gln
        195                         200                         205
Glu Gln Lys Arg Ile Leu Glu Met Gly Ile Thr Gly Pro Glu Gly His
    210                         215                         220
Ala Leu Ser Arg Pro Glu Glu Leu Glu Ala Glu Ala Val Phe Arg Ala
225                         230                         235                         240
Ile Thr Ile Ala Gly Arg Ile Asn Cys Pro Val Tyr Ile Thr Lys Val
                245                         250                         255
Met Ser Lys Ser Ala Ala Asp Ile Ile Ala Leu Ala Arg Lys Lys Gly
            260                         265                         270
Pro Leu Val Phe Gly Glu Pro Ile Ala Ala Ser Leu Gly Thr Asp Gly
        275                         280                         285
Thr His Tyr Trp Ser Lys Asn Trp Ala Lys Ala Ala Ala Phe Val Thr
    290                         295                         300
Ser Pro Pro Leu Ser Pro Asp Pro Thr Thr Pro Asp Tyr Leu Thr Ser
305                         310                         315                         320
Leu Leu Ala Cys Gly Asp Leu Gln Val Thr Gly Ser Gly His Cys Pro
                325                         330                         335
Tyr Ser Thr Ala Gln Lys Ala Val Gly Lys Asp Asn Phe Thr Leu Ile
            340                         345                         350
Pro Glu Gly Val Asn Gly Ile Glu Glu Arg Met Thr Val Val Trp Asp
        355                         360                         365
Lys Ala Val Ala Thr Gly Lys Met Asp Glu Asn Gln Phe Val Ala Val
    370                         375                         380
Thr Ser Thr Asn Ala Ala Lys Ile Phe Asn Leu Tyr Pro Arg Lys Gly
385                         390                         395                         400
Arg Ile Ala Val Gly Ser Asp Ala Asp Val Val Ile Trp Asp Pro Asp
                405                         410 ·                       415
Lys Leu Lys Thr Ile Thr Ala Lys Ser His Lys Ser Ala Val Glu Tyr
            420                         425                         430
Asn Ile Phe Glu Gly Met Glu Cys His Gly Ser Pro Leu Val Val Ile
        435                         440                         445
Ser Gln Gly Lys Ile Val Phe Glu Asp Gly Asn Ile Asn Val Asn Lys
    450                         455                         460
Gly Met Gly Arg Phe Ile Pro Arg Lys Ala Phe Pro Glu His Leu Tyr
465                         470                         475                         480
Gln Arg Val Lys Ile Arg Asn Lys Val Phe Gly Leu Gln Gly Val Ser
                485                         490                         495
Arg Gly Met Tyr Asp Gly Pro Val Tyr Glu Val Pro Ala Thr Pro Lys
            500                         505                         510
Tyr Ala Thr Pro Ala Pro Ser Ala Lys Ser Ser Pro Ser Lys His Gln
        515                         520                         525
Pro Pro Pro Ile Arg Asn Leu His Gln Ser Asn Phe Ser Leu Ser Gly
    530                         535                         540
Ala Gln Ile Asp Asp Asn Asn Pro Arg Arg Thr Gly His Arg Ile Val
545                         550                         555                         560
Ala Pro Pro Gly Gly Arg Ser Asn Ile Thr Ser Leu Gly
                565                         570
```

```
<210> 71
<211> 351
<212> PRT
<213> Homo sapiens

<400> 71
Met Gln Arg Ala Leu Pro Gly Ala Arg Gln His Leu Gly Ala Ile Leu
1               5                       10                      15
Ala Ser Ala Ser Val Val Val Lys Ala Leu Cys Ala Ala Val Leu Phe
            20                      25                      30
Leu Tyr Leu Leu Ser Phe Ala Val Asp Thr Gly Cys Leu Ala Val Thr
        35                      40                      45
Pro Gly Tyr Leu Phe Pro Pro Asn Phe Trp Ile Trp Thr Leu Ala Thr
```

```
              50                    55                    60
His Gly Leu Met Glu Gln His Val Trp Asp Val Ala Ile Ser Leu Thr
65                    70                    75                    80
Thr Val Val Val Ala Gly Arg Leu Leu Glu Pro Leu Trp Gly Ala Leu
                      85                    90                    95
Glu Leu Leu Ile Phe Phe Ser Val Val Asn Val Ser Val Gly Leu Leu
                 100                   105                   110
Gly Ala Phe Ala Tyr Leu Leu Thr Tyr Met Ala Ser Phe Asn Leu Val
                 115                   120                   125
Tyr Leu Phe Thr Val Arg Ile His Gly Ala Leu Gly Phe Leu Gly Gly
            130                   135                   140
Val Leu Val Ala Leu Lys Gln Thr Met Gly Asp Cys Val Val Leu Arg
145                   150                   155                   160
Val Pro Gln Val Arg Val Ser Val Met Pro Met Leu Leu Leu Ala Leu
                 165                   170                   175
Leu Leu Leu Leu Arg Leu Ala Thr Leu Leu Gln Ser Pro Ala Leu Ala
                 180                   185                   190
Ser Tyr Gly Phe Gly Leu Leu Ser Ser Trp Val Tyr Leu Arg Phe Tyr
            195                   200                   205
Gln Arg His Ser Arg Gly Arg Gly Asp Met Ala·Asp His Phe Ala Phe
            210                   215                   220
Ala Thr Phe Phe Pro Glu Ile Leu Gln Pro Val Val Gly Leu Leu Ala
225                   230                   235                   240
Asn Leu Val His Ser Leu Leu Val Lys Val Lys Ile Cys Gln Lys Thr
                 245                   250                   255
Val Lys Arg Tyr Asp Val Gly Ala Pro Ser Ser Ile Thr Ile Ser Leu
            260                   265                   270
Pro Gly Thr Asp Pro Gln Asp Ala Glu Arg Arg Arg Gln Leu Ala Leu
            275                   280                   285
Lys Ala Leu Asn Glu Arg Leu Lys Arg Val Glu Asp Gln Ser Ile Trp
            290                   295                   300
Pro Ser Met Asp Asp Asp Glu Glu Glu Ser Gly Ala Lys Val Asp Ser
305                   310                   315                   320
Pro Leu Pro Ser Asp Lys Ala Pro Thr Pro Pro Gly Lys Gly Ala Ala
                 325                   330                   335
Pro Glu Ser Ser Leu Ile Thr Phe Glu Ala Ala Pro Pro Thr Leu
                 340                   345                   350
```

<210> 72
<211> 745
<212> PRT
<213> Homo sapiens

<400> 72
```
Met Pro Val Leu Ser Arg Pro Arg Pro Trp Arg Gly Asn Thr Leu Lys
1                   5                    10                   15
Arg Thr Ala Val Leu Leu Ala Leu Ala Ala Tyr Gly Ala His Lys Val
                 20                   25                   30
Tyr Pro Leu Val Arg Gln Cys Leu Ala Pro Ala Arg Gly Leu Gln Ala
            35                   40                   45
Pro Ala Gly Glu Pro Thr Gln Glu Ala Ser Gly Val Ala Ala Ala Lys
            50                   55                   60
Ala Gly Met Asn Arg Val Phe Leu Gln Arg Leu Leu Trp Leu Leu Arg
65                   70                   75                   80
Leu Leu Phe Pro Arg Val Leu Cys Arg Glu Thr Gly Leu Leu Ala Leu
                 85                   90                   95
His Ser Ala Ala Leu Val Ser Arg Thr Phe Leu Ser Val Tyr Val Ala
                 100                  105                  110
Arg Leu Asp Gly Arg Leu Ala Arg Cys Ile Val Arg Lys Asp Pro Arg
            115                  120                  125
Ala Phe Gly Trp Gln Leu Leu Gln Trp Leu Leu Ile Ala Leu Pro Ala
            130                  135                  140
Thr Phe Val Asn Ser Ala Ile Arg Tyr Leu Glu Gly Gln Leu Ala Leu
```

```
145                     150                     155                     160
Ser Phe Arg Ser Arg Leu Val Ala His Ala Tyr Arg Leu Tyr Phe Ser
                165                 170                 175
Gln Gln Thr Tyr Tyr Arg Val Ser Asn Met Asp Gly Arg Leu Arg Asn
                180                 185                 190
Pro Asp Gln Ser Leu Thr Glu Asp Val Val Ala Phe Ala Ala Ser Val
                195                 200                 205
Ala His Leu Tyr Ser Asn Leu Thr Lys Pro Leu Leu Asp Val Ala Val
210                     215                     220
Thr Ser Tyr Thr Leu Leu Arg Ala Ala Arg Ser Arg Gly Ala Gly Thr
225                     230                     235                     240
Ala Trp Pro Ser Ala Ile Ala Gly Leu Val Val Phe Leu Thr Ala Asn
                245                 250                 255
Val Leu Arg Ala Phe Ser Pro Lys Phe Gly Glu Leu Val Ala Glu Glu
                260                 265                 270
Ala Arg Arg Lys Gly Glu Leu Arg Tyr Met His Ser Arg Val Val Ala
                275                 280                 285
Asn Ser Glu Glu Ile Ala Phe Tyr Gly Gly His Glu Val Glu Leu Ala
        290                 295                 300
Leu Leu Gln Arg Ser Tyr Gln Asp Leu Ala Ser Gln Ile Asn Leu Ile
305                     310                     315                     320
Leu Leu Glu Arg Leu Trp Tyr Val Met Leu Glu Gln Phe Leu Met Lys
                325                 330                 335
Tyr Val Trp Ser Ala Ser Gly Leu Leu Met Val Ala Val Pro Ile Ile
                340                 345                 350
Thr Ala Thr Gly Tyr Ser Glu Ser Asp Ala Glu Ala Val Lys Lys Ala
        355                 360                 365
Ala Leu Glu Lys Lys Glu Glu Glu Leu Val Ser Glu Arg Thr Glu Ala
        370                 375                 380
Phe Thr Ile Ala Arg Asn Leu Leu Thr Ala Ala Ala Asp Ala Ile Glu
385                     390                     395                     400
Arg Ile Met Ser Ser Tyr Lys Glu Val Thr Glu Leu Ala Gly Tyr Thr
                405                 410                 415
Ala Arg Val His Glu Met Phe Gln Val Phe Glu Asp Val Gln Arg Cys
                420                 425                 430
His Phe Lys Arg Pro Arg Glu Leu Glu Asp Ala Gln Ala Gly Ser Gly
        435                 440                 445
Thr Ile Gly Arg Ser Gly Val Arg Val Glu Gly Pro Leu Lys Ile Arg
        450                 455                 460
Gly Gln Val Val Asp Val Glu Gln Gly Ile Ile Cys Glu Asn Ile Pro
465                     470                     475                     480
Ile Val Thr Pro Ser Gly Glu Val Val Val Ala Ser Leu Asn Ile Arg
                485                 490                 495
Val Glu Glu Gly Met His Leu Leu Ile Thr Gly Pro Asn Gly Cys Gly
                500                 505                 510
Lys Ser Ser Leu Phe Arg Ile Leu Gly Gly Leu Trp Pro Thr Tyr Gly
        515                 520                 525
Gly Val Leu Tyr Lys Pro Pro Pro Gln Arg Met Phe Tyr Ile Pro Gln
        530                 535                 540
Arg Pro Tyr Met Ser Val Gly Ser Leu Arg Asp Gln Val Ile Tyr Pro
545                     550                     555                     560
Asp Ser Val Glu Asp Met Gln Arg Lys Gly Tyr Ser Glu Gln Asp Leu
                565                 570                 575
Glu Ala Ile Leu Asp Val Val His Leu His His Ile Leu Gln Arg Glu
        580                 585                 590
Gly Gly Trp Glu Ala Met Cys Asp Trp Lys Asp Val Leu Ser Gly Gly
        595                 600                 605
Glu Lys Gln Arg Ile Gly Met Ala Arg Met Phe Tyr His Arg Pro Lys
        610                 615                 620
Tyr Ala Leu Leu Asp Glu Cys Thr Ser Ala Val Ser Ile Asp Val Glu
625                     630                     635                     640
Gly Lys Ile Phe Gln Ala Ala Lys Asp Ala Gly Ile Ala Leu Leu Ser
                645                 650                 655
```

Ile Thr His Arg Pro Ser Leu Trp Lys Tyr His Thr His Leu Leu Gln
            660   665   670
Phe Asp Gly Glu Gly Gly Trp Lys Phe Glu Lys Leu Asp Ser Ala Ala
            675   680   685
Arg Leu Ser Leu Thr Glu Glu Lys Gln Arg Leu Glu Gln Gln Leu Ala
            690   695   700
Gly Ile Pro Lys Met Gln Arg Arg Leu Gln Glu Leu Cys Gln Ile Leu
705   710   715   720
Gly Glu Ala Val Ala Pro Ala His Val Pro Ala Pro Ser Pro Gln Gly
            725   730   735
Pro Gly Gly Leu Gln Gly Ala Ser Thr
            740   745

<210> 73
<211> 334
<212> PRT
<213> Homo sapiens

<400> 73
Met Asp Leu Asp Val Val Asn Met Phe Val Ile Ala Gly Gly Thr Leu
1   5   10   15
Ala Ile Pro Ile Leu Ala Phe Val Ala Ser Phe Leu Leu Trp Pro Ser
            20   25   30
Ala Leu Ile Arg Ile Tyr Tyr Trp Tyr Trp Arg Arg Thr Leu Gly Met
            35   40   45
Gln Val Arg Tyr Val His His Glu Asp Tyr Gln Phe Cys Tyr Ser Phe
            50   55   60
Arg Gly Arg Pro Gly His Lys Pro Ser Ile Leu Met Leu His Gly Phe
65   70   75   80
Ser Ala His Lys Asp Met Trp Leu Ser Val Val Lys Phe Leu Pro Lys
            85   90   95
Asn Leu His Leu Val Cys Val Asp Met Pro Gly His Glu Gly Thr Thr
            100   105   110
Arg Ser Ser Leu Asp Asp Leu Ser Ile Asp Gly Gln Val Lys Arg Ile
            115   120   125
His Gln Phe Val Glu Cys Leu Lys Leu Asn Lys Lys Pro Phe His Leu
            130   135   140
Val Gly Thr Ser Met Gly Gly Gln Val Ala Gly Val Tyr Ala Ala Tyr
145   150   155   160
Tyr Pro Ser Asp Val Ser Ser Leu Cys Leu Val Cys Pro Ala Gly Leu
            165   170   175
Gln Tyr Ser Thr Asp Asn Gln Phe Val Gln Arg Leu Lys Glu Leu Gln
            180   185   190
Gly Ser Ala Ala Val Glu Lys Ile Pro Leu Ile Pro Ser Thr Pro Glu
            195   200   205
Glu Met Ser Glu Met Leu Gln Leu Cys Ser Tyr Val Arg Phe Lys Val
210   215   220
Pro Gln Gln Ile Leu Gln Gly Leu Val Asp Val Arg Ile Pro His Asn
225   230   235   240
Asn Phe Tyr Arg Lys Leu Phe Leu Glu Ile Val Ser Glu Lys Ser Arg
            245   250   255
Tyr Ser Leu His Gln Asn Met Asp Lys Ile Lys Val Pro Thr Gln Ile
            260   265   270
Ile Trp Gly Lys Gln Asp Gln Val Leu Asp Val Ser Gly Ala Asp Met
            275   280   285
Leu Ala Lys Ser Ile Ala Asn Cys Gln Val Glu Leu Leu Glu Asn Cys
290   295   300
Gly His Ser Val Val Met Glu Arg Pro Arg Lys Thr Ala Lys Leu Ile
305   310   315   320
Ile Asp Phe Leu Ala Ser Val His Asn Thr Asp Asn Asn Lys
            325   330

<210> 74

<211> 559
<212> PRT
<213> Homo sapiens

<400> 74
Ser Asp Arg Leu Leu Ile Arg Gly Gly Arg Ile Val Asn Asp Asp Gln
1   5   10   15
Ser Phe Tyr Ala Asp Val His Val Glu Asp Gly Leu Ile Lys Gln Ile
            20   25   30
Gly Glu Asn Leu Ile Val Pro Gly Gly Ile Lys Thr Ile Asp Ala His
        35   40   45
Gly Leu Met Val Leu Pro Gly Gly Val Asp Val His Thr Arg Leu Gln
    50   55   60
Met Pro Val Leu Gly Met Thr Pro Ala Asp Asp Phe Cys Gln Gly Thr
65   70   75   80
Lys Ala Ala Leu Ala Gly Gly Thr Thr Met Ile Leu Asp His Val Phe
            85   90   95
Pro Asp Thr Gly Val Ser Leu Leu Ala Ala Tyr Glu Gln Trp Arg Glu
            100   105   110
Arg Ala Asp Ser Ala Ala Cys Cys Asp Tyr Ser Leu His Val Asp Ile
        115   120   125
Thr Arg Trp His Glu Ser Ile Lys Glu Glu Leu Glu Ala Leu Val Lys
    130   135   140
Glu Lys Gly Val Asn Ser Phe Leu Val Phe Met Ala Tyr Lys Asp Arg
145   150   155   160
Cys Gln Cys Ser Asp Ser Gln Met Tyr Glu Ile Phe Ser Ile Ile Arg
            165   170   175
Asp Leu Gly Ala Leu Ala Gln Val His Ala Glu Asn Gly Asp Ile Val
        180   185   190
Glu Glu Glu Gln Lys Arg Leu Leu Glu Leu Gly Ile Thr Gly Pro Glu
        195   200   205
Gly His Val Leu Ser His Pro Glu Glu Val Glu Ala Glu Ala Val Tyr
    210   215   220
Arg Ala Val Thr Ile Ala Lys Gln Ala Asn Cys Pro Leu Tyr Val Thr
225   230   235   240
Lys Val Met Ser Lys Gly Ala Ala Asp Ala Ile Ala Gln Ala Lys Arg
            245   250   255
Arg Gly Val Val Val Phe Gly Glu Pro Ile Thr Ala Ser Leu Gly Thr
            260   265   270
Asp Gly Ser His Tyr Trp Ser Lys Asn Trp Ala Lys Ala Ala Ala Phe
        275   280   285
Val Thr Ser Pro Pro Val Asn Pro Asp Pro Thr Thr Ala Asp His Leu
    290   295   300
Thr Cys Leu Leu Ser Ser Gly Asp Leu Gln Val Thr Gly Ser Ala His
305   310   315   320
Cys Thr Phe Thr Thr Ala Gln Lys Ala Val Gly Lys Asp Asn Phe Ala
            325   330   335
Leu Ile Pro Glu Gly Thr Asn Gly Ile Glu Glu Arg Met Ser Met Val
            340   345   350
Trp Glu Lys Cys Val Ala Ser Gly Lys Met Asp Glu Asn Glu Phe Val
        355   360   365
Ala Val Thr Ser Thr Asn Ala Ala Lys Ile Phe Asn Phe Tyr Pro Arg
    370   375   380
Lys Gly Arg Val Ala Val Gly Ser Asp Ala Asp Leu Val Ile Trp Asn
385   390   395   400
Pro Lys Ala Thr Lys Ile Ile Ser Ala Lys Thr His Asn Leu Asn Val
            405   410   415
Glu Tyr Asn Ile Phe Glu Gly Val Glu Cys Arg Gly Ala Pro Ala Val
            420   425   430
Val Ile Ser Gln Gly Arg Val Ala Leu Glu Asp Gly Lys Met Phe Val
    435   440   445
Thr Pro Gly Ala Gly Arg Phe Val Pro Arg Lys Thr Phe Pro Asp Phe
    450   455   460

Val Tyr Lys Arg Ile Lys Ala Arg Asn Arg Leu Ala Glu Ile His Gly
465   470   475   480
Val Pro Arg Gly Leu Tyr Asp Gly Pro Val His Glu Val Met Val Pro
                485   490   495
Ala Lys Pro Gly Ser Gly Ala Pro Ala Arg Ala Ser Cys Pro Gly Lys
            500   505   510
Ile Ser Val Pro Pro Val Arg Asn Leu His Gln Ser Gly Phe Ser Leu
        515   520   525
Ser Gly Ser Gln Ala Asp Asp His Ile Ala Arg Arg Thr Ala Gln Lys
    530   535   540
Ile Met Ala Pro Pro Gly Gly Arg Ser Asn Ile Thr Ser Leu Ser
545   550   555

<210> 75
<211> 743
<212> PRT
<213> Homo sapiens

<400> 75
Met Ala Arg Arg Ser Val Leu Tyr Phe Ile Leu Leu Asn Ala Leu Ile
1   5   10   15
Asn Lys Gly Gln Ala Cys Phe Cys Asp His Tyr Ala Trp Thr Gln Trp
            20   25   30
Thr Ser Cys Ser Lys Thr Cys Asn Ser Gly Thr Gln Ser Arg His Arg
        35   40   45
Gln Ile Val Val Asp Lys Tyr Tyr Gln Glu Asn Phe Cys Glu Gln Ile
    50   55   60
Cys Ser Lys Gln Glu Thr Arg Glu Cys Asn Trp Gln Arg Cys Pro Ile
65   70   75   80
Asn Cys Leu Leu Gly Asp Phe Gly Pro Trp Ser Asp Cys Asp Pro Cys
                85   90   95
Ile Glu Lys Gln Gly Thr Ser Asn Phe His Tyr Leu Asn His Leu Phe
            100   105   110
Thr Ser Phe Phe His Leu Asp Ser Ser Phe Ile Arg Ile His Lys Val
        115   120   125
Met Lys Val Leu Asn Phe Thr Thr Lys Ala Lys Asp Leu His Leu Ser
    130   135   140
Asp Val Phe Leu Lys Ala Leu Asn His Leu Pro Leu Glu Tyr Asn Ser
145   150   155   160
Ala Leu Tyr Ser Arg Ile Phe Asp Asp Phe Gly Thr His Tyr Phe Thr
                165   170   175
Ser Gly Ser Leu Gly Gly Val Tyr Asp Leu Leu Tyr Gln Phe Ser Ser
            180   185   190
Glu Glu Leu Lys Asn Ser Gly Leu Thr Glu Glu Glu Ala Lys His Cys
        195   200   205
Val Arg Ile Glu Thr Lys Lys Arg Val Leu Phe Ala Lys Lys Thr Lys
    210   215   220
Val Glu His Arg Cys Thr Thr Asn Lys Leu Ser Glu Lys His Glu Gly
225   230   235   240
Ser Phe Ile Gln Gly Ala Glu Lys Ser Ile Ser Leu Ile Arg Gly Gly
                245   250   255
Arg Ser Glu Tyr Gly Ala Ala Leu Ala Trp Glu Lys Gly Ser Ser Gly
            260   265   270
Leu Glu Glu Lys Thr Phe Ser Glu Trp Leu Glu Ser Val Lys Glu Asn
        275   280   285
Pro Ala Val Ile Asp Phe Glu Leu Ala Pro Ile Val Asp Leu Val Arg
    290   295   300
Asn Ile Pro Cys Ala Val Thr Lys Arg Asn Asn Leu Arg Lys Ala Leu
305   310   315   320
Gln Glu Tyr Ala Ala Lys Phe Asp Pro Cys Gln Cys Ala Pro Cys Pro
                325   330   335
Asn Asn Gly Arg Pro Thr Leu Ser Gly Thr Glu Cys Leu Cys Val Cys
            340   345   350

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Gln Ser Gly Thr Tyr Gly Glu Asn Cys Glu Lys Gln Ser Pro Asp Tyr
        355             360             365
Lys Ser Asn Ala Val Asp Gly Gln Trp Gly Cys Trp Ser Ser Trp Ser
    370             375             380
Thr Cys Asp Ala Thr Tyr Lys Arg Ser Arg Thr Arg Glu Cys Asn Asn
385             390             395             400
Pro Ala Pro Gln Arg Gly Gly Lys Arg Cys Glu Gly Glu Lys Arg Gln
            405             410             415
Glu Glu Asp Cys Thr Phe Ser Ile Met Glu Asn Asn Gly Gln Pro Cys
            420             425             430
Ile Asn Asp Asp Glu Glu Met Lys Glu Val Asp Leu Pro Glu Ile Glu
        435             440             445
Ala Asp Ser Gly Cys Pro Gln Pro Val Pro Pro Glu Asn Gly Phe Ile
    450             455             460
Arg Asn Glu Lys Gln Leu Tyr Leu Val Gly Glu Asp Val Glu Ile Ser
465             470             475             480
Cys Leu Thr Gly Phe Glu Thr Val Gly Tyr Gln Tyr Phe Arg Cys Leu
            485             490             495
Pro Asp Gly Thr Trp Arg Gln Gly Asp Val Glu Cys Gln Arg Thr Glu
            500             505             510
Cys Ile Lys Pro Val Val Gln Glu Val Leu Thr Ile Thr Pro Phe Gln
        515             520             525
Arg Leu Tyr Arg Ile Gly Glu Ser Ile Glu Leu Thr Cys Pro Lys Gly
        530             535             540
Phe Val Val Ala Gly Pro Ser Arg Tyr Thr Cys Gln Gly Asn Ser Trp
545             550             555             560
Thr Pro Pro Ile Ser Asn Ser Leu Thr Cys Glu Lys Asp Thr Leu Thr
            565             570             575
Lys Leu Lys Gly His Cys Gln Leu Gly Gln Lys Gln Ser Gly Ser Glu
            580             585             590
Cys Ile Cys Met Ser Pro Glu Glu Asp Cys Ser His His Ser Glu Asp
        595             600             605
Leu Cys Val Phe Asp Thr Asp Ser Asn Asp Tyr Phe Thr Ser Pro Ala
    610             615             620
Cys Lys Phe Leu Ala Glu Lys Cys Leu Asn Asn Gln Gln Leu His Phe
625             630             635             640
Leu His Ile Gly Ser Cys Gln Asp Gly Arg Gln Leu Glu Trp Gly Leu
            645             650             655
Glu Arg Thr Arg Leu Ser Ser Asn Ser Thr Lys Lys Glu Ser Cys Gly
            660             665             670
Tyr Asp Thr Cys Tyr Asp Trp Glu Lys Cys Ser Ala Ser Thr Ser Lys
    675             680             685
Cys Val Cys Leu Leu Pro Pro Gln Cys Phe Lys Gly Gly Asn Gln Leu
    690             695             700
Tyr Cys Val Lys Met Gly Ser Ser Thr Ser Glu Lys Thr Leu Asn Ile
705             710             715             720
Cys Glu Val Gly Thr Ile Arg Cys Ala Asn Arg Lys Met Glu Ile Leu
            725             730             735
His Pro Gly Lys Cys Leu Ala
            740
```

<210> 76
<211> 321
<212> PRT
<213> Homo sapiens

<400> 76
```
Met Glu Arg Lys Asn Gln Thr Ala Ile Thr Glu Phe Ile Ile Leu Gly
1               5               10              15
Phe Ser Asn Leu Asn Glu Leu Gln Phe Leu Leu Phe Thr Ile Phe Phe
            20              25              30
Leu Thr Tyr Phe Cys Thr Leu Gly Gly Asn Ile Leu Ile Ile Leu Thr
        35              40              45
```

Thr Val Thr Asp Pro His Leu His Thr Pro Met Tyr Tyr Phe Leu Gly
    50   55   60
Asn Leu Ala Phe Ile Asp Ile Cys Tyr Thr Thr Ser Asn Val Pro Gln
65   70   75   80
Met Met Val His Leu Leu Ser Lys Lys Lys Ser Ile Ser Tyr Val Gly
            85   90   95
Cys Val Val Gln Leu Phe Ala Phe Val Phe Phe Val Gly Ser Glu Cys
            100   105   110
Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Asn
        115   120   125
Pro Leu Arg Tyr Ser Val Ile Leu Ser Lys Val Leu Cys Asn Gln Leu
    130   135   140
Ala Ala Ser Cys Trp Ala Ala Gly Phe Leu Asn Ser Val Val His Thr
145   150   155   160
Val Leu Thr Phe Cys Leu Pro Phe Cys Gly Asn Asn Gln Ile Asn Tyr
            165   170   175
Phe Phe Cys Asp Ile Pro Pro Leu Leu Ile Leu Ser Cys Gly Asn Thr
            180   185   190
Ser Val Asn Glu Leu Ala Leu Leu Ser Thr Gly Val Phe Ile Gly Trp
    195   200   205
Thr Pro Phe Leu Cys Ile Val Leu Ser Tyr Ile Cys Ile Ile Ser Thr
    210   215   220
Ile Leu Arg Ile Gln Ser Ser Glu Gly Arg Arg Lys Ala Phe Ser Thr
225   230   235   240
Cys Ala Ser His Leu Ala Ile Val Phe Leu Phe Tyr Gly Ser Ala Ile
            245   250   255
Phe Thr Tyr Val Arg Pro Ile Ser Thr Tyr Ser Leu Lys Lys Asp Arg
            260   265   270
Leu Val Ser Val Leu Tyr Ser Val Val Thr Pro Met Leu Asn Pro Ile
    275   280   285
Ile Tyr Thr Leu Arg Asn Lys Asp Ile Lys Glu Ala Val Lys Thr Ile
    290   295   300
Gly Ser Lys Trp Gln Pro Pro Ile Ser Ser Leu Asp Ser Lys Leu Thr
305   310   315   320
Tyr

<210> 77
<211> 297
<212> PRT
<213> Homo sapiens

<400> 77
Met Asp Pro Gly Lys Asp Lys Glu Gly Val Pro Gln Pro Ser Gly Pro
1   5   10   15
Pro Ala Arg Lys Lys Phe Val Ile Pro Leu Asp Glu Asp Glu Val Pro
            20   25   30
Pro Gly Val Ala Lys Pro Leu Phe Arg Ser Thr Gln Ser Leu Pro Thr
        35   40   45
Val Asp Thr Ser Ala Gln Ala Ala Pro Gln Thr Tyr Ala Glu Tyr Ala
    50   55   60
Ile Ser Gln Pro Leu Glu Gly Ala Gly Ala Thr Cys Pro Thr Gly Ser
65   70   75   80
Glu Pro Leu Ala Gly Glu Thr Pro Asn Gln Ala Leu Lys Pro Gly Ala
            85   90   95
Lys Ser Asn Ser Ile Ile Val Ser Pro Arg Gln Arg Gly Asn Pro Val
            100   105   110
Leu Lys Phe Val Arg Asn Val Pro Trp Glu Phe Gly Asp Val Ile Pro
        115   120   125
Asp Tyr Val Leu Gly Gln Ser Thr Cys Ala Leu Phe Leu Ser Leu Arg
    130   135   140
Tyr His Asn Leu His Pro Asp Tyr Ile His Gly Arg Leu Gln Ser Leu
145   150   155   160

```
Gly Lys Asn Phe Ala Leu Arg Val Leu Leu Val Gln Val Asp Val Lys
            165             170                 175
Asp Pro Gln Gln Ala Leu Lys Glu Leu Ala Lys Met Cys Ile Leu Ala
            180             185                 190
Asp Cys Thr Leu Ile Leu Ala Trp Ser Pro Glu Glu Ala Gly Arg Tyr
            195             200                 205
Leu Glu Thr Tyr Lys Ala Tyr Glu Gln Lys Pro Ala Asp Leu Leu Met
    210             215                 220
Glu Lys Leu Glu Gln Asp Phe Val Ser Arg Val Thr Glu Cys Leu Thr
225             230                 235                 240
Thr Val Lys Ser Val Asn Lys Thr Asp Ser Gln Thr Leu Leu Thr Thr
            245             250                 255
Phe Gly Ser Leu Glu Gln Leu Ile Ala Ala Ser Arg Glu Asp Leu Ala
            260             265                 270
Leu Cys Pro Gly Leu Gly Pro Gln Lys Ala Arg Arg Leu Phe Asp Val
            275             280                 285
Leu His Glu Pro Phe Leu Lys Val Pro
    290             295
```

<210> 78
<211> 579
<212> PRT
<213> Homo sapiens

<400> 78

```
Met Leu Ala Asn Ser Ala Ser Val Arg Ile Leu Ile Lys Gly Gly Lys
  1             5                 10                  15
Val Val Asn Asp Asp Cys Thr His Glu Ala Asp Val Tyr Ile Glu Asn
            20                  25                  30
Gly Ile Ile Gln Gln Val Gly Arg Glu Leu Met Ile Pro Gly Gly Ala
            35                  40                  45
Lys Val Ile Asp Ala Thr Gly Lys Leu Val Ile Pro Gly Gly Ile Asp
            50                  55                  60
Thr Ser Thr His Phe His Gln Thr Phe Met Asn Ala Thr Cys Val Asp
65                  70                  75                  80
Asp Phe Tyr His Gly Thr Lys Ala Ala Leu Val Gly Gly Thr Thr Met
            85                  90                  95
Ile Ile Gly His Val Leu Pro Asp Lys Glu Thr Ser Leu Val Asp Ala
            100             105                 110
Tyr Glu Lys Cys Arg Gly Leu Ala Asp Pro Lys Val Cys Cys Asp Tyr
            115             120                 125
Ala Leu His Val Gly Ile Thr Trp Trp Ala Pro Lys Val Lys Ala Glu
            130             135                 140
Met Glu Thr Leu Val Arg Glu Lys Gly Val Asn Ser Phe Gln Met Phe
145             150                 155                 160
Met Thr Tyr Lys Asp Leu Asn Trp Asn Met Leu Arg Asp Ser Glu Leu
            165             170                 175
Tyr Gln Val Leu His Ala Cys Lys Asp Ile Gly Ala Ile Ala Arg Val
            180             185                 190
His Ala Glu Asn Gly Glu Leu Val Ala Glu Ala Ser Leu Gln Pro Arg
            195             200                 205
Ile Leu Asp Gly Gly Thr Pro Gly Ala Lys Glu Ala Leu Asp Leu Gly
    210             215                 220
Ile Thr Gly Pro Glu Gly Ile Glu Ile Ser Arg Pro Glu Glu Leu Glu
225             230                 235                 240
Ala Glu Ala Thr His Arg Val Ile Thr Ile Ala Asn Arg Thr His Cys
            245             250                 255
Pro Ile Tyr Leu Val Asn Val Ser Ser Ile Ser Ala Gly Asp Val Ile
            260             265                 270
Ala Ala Ala Lys Met Gln Gly Lys Val Val Leu Ala Glu Thr Thr Thr
            275             280                 285
Ala His Ala Thr Leu Thr Gly Leu His Tyr Tyr His Gln Asp Trp Ser
    290             295                 300
```

His Ala Ala Ala Tyr Val Thr Val Pro Pro Leu Arg Leu Asp Thr Asn
305   310   315   320
Thr Ser Thr Tyr Leu Met Ser Leu Leu Ala Asn Asp Thr Leu Asn Ile
                325   330   335
Val Ala Ser Asp His Arg Pro Phe Thr Thr Lys Gln Lys Ala Met Gly
            340   345   350
Lys Glu Asp Phe Thr Lys Ile Pro His Gly Val Ser Gly Val Gln Asp
            355   360   365
Arg Met Ser Val Ile Trp Glu Arg Gly Val Val Gly Gly Lys Met Asp
        370   375   380
Glu Asn Arg Phe Val Ala Val Thr Ser Ser Asn Ala Ala Lys Leu Leu
385   390   395   400
Asn Leu Tyr Pro Arg Lys Gly Arg Ile Ile Pro Gly Ala Asp Ala Asp
            405   410   415
Val Val Val Trp Asp Pro Glu Ala Thr Lys Thr Ile Ser Ala Ser Thr
            420   425   430
Gln Val Gln Gly Gly Asp Phe Asn Leu Tyr Glu Asn Met Arg Cys His
        435   440   445
Gly Val Pro Leu Val Thr Ile Ser Arg Gly Arg Val Val Tyr Glu Asn
    450   455   460
Gly Val Phe Met Cys Ala Glu Gly Thr Gly Lys Phe Cys Pro Leu Arg
465   470   475   480
Ser Phe Pro Asp Thr Val Tyr Lys Lys Leu Val Gln Arg Glu Lys Thr
            485   490   495
Leu Lys Val Arg Gly Val Asp Arg Thr Pro Tyr Leu Gly Asp Val Ala
            500   505   510
Val Val Val His Pro Gly Lys Lys Glu Met Gly Thr Pro Leu Ala Asp
            515   520   525
Thr Pro Thr Arg Pro Val Thr Arg His Gly Gly Met Arg Asp Leu His
        530   535   540
Glu Ser Ser Phe Ser Leu Ser Gly Ser Gln Ile Asp Asp His Val Pro
545   550   555   560
Lys Arg Ala Ser Ala Arg Ile Leu Ala Pro Pro Gly Gly Arg Ser Ser
            565   570   575
Gly Ile Trp

<210> 79
<211> 366
<212> PRT
<213> Homo sapiens

<400> 79
Val Thr Ala Val Ala Gln Gln Asn Gln Gly Glu Val Pro Glu Pro Gln
1   5   10   15
Asp Met Lys Val Ala Glu Val Leu Phe Asp Ala Ala Asp Ala Asn Ala
            20   25   30
Ile Glu Glu Val Asn Leu Ala Tyr Glu Asn Val Lys Glu Val Asp Gly
        35   40   45
Leu Asp Val Ser Lys Glu Gly Thr Glu Ala Trp Glu Ala Ala Met Lys
    50   55   60
Arg Tyr Asp Glu Arg Ile Asp Arg Val Glu Thr Arg Ile Thr Ala Arg
65   70   75   80
Leu Arg Asp Gln Leu Gly Thr Ala Lys Asn Ala Asn Glu Met Phe Arg
            85   90   95
Ile Phe Ser Arg Phe Asn Ala Leu Phe Val Arg Pro His Ile Arg Gly
            100   105   110
Ala Ile Arg Glu Tyr Gln Thr Gln Leu Ile Gln Arg Val Lys Asp Asp
        115   120   125
Ile Glu Ser Leu His Asp Lys Phe Lys Val Gln Tyr Pro Gln Ser Gln
    130   135   140
Ala Cys Lys Met Ser His Val Arg Asp Leu Pro Pro Val Ser Gly Ser
145   150   155   160

```
Ile Ile Trp Ala Lys Gln Ile Asp Arg Gln Leu Thr Ala Tyr Met Lys
            165                 170                 175
Arg Val Glu Asp Val Leu Gly Lys Gly Trp Glu Asn His Val Glu Gly
            180                 185                 190
Gln Lys Leu Lys Gln Asp Gly Asp Ser Phe Arg Met Lys Leu Asn Thr
            195                 200                 205
Gln Glu Ile Phe Asp Asp Trp Ala Arg Lys Val Gln Gln Arg Asn Leu
    210                 215                 220
Gly Val Ser Gly Arg Ile Phe Thr Ile Glu Ser Thr Arg Val Arg Gly
225                 230                 235                 240
Arg Thr Gly Asn Val Leu Lys Leu Lys Val Asn Phe Leu Pro Glu Ile
            245                 250                 255
Ile Thr Leu Ser Lys Glu Val Arg Asn Leu Lys Trp Leu Gly Phe Arg
            260                 265                 270
Val Pro Leu Ala Ile Val Asn Lys Ala His Gln Ala Asn Gln Leu Tyr
            275                 280                 285
Pro Phe Ala Ile Ser Leu Ile Glu Ser Val Arg Thr Tyr Glu Arg Thr
    290                 295                 300
Cys Glu Lys Val Glu Glu Arg Asn Thr Ile Ser Leu Leu Val Ala Gly
305                 310                 315                 320
Leu Lys Lys Glu Val Gln Ala Leu Ile Ala Glu Gly Ile Ala Leu Val
            325                 330                 335
Trp Glu Ser Tyr Lys Leu Asp Pro Tyr Val Gln Arg Leu Ala Glu Thr
            340                 345                 350
Val Phe Asn Phe Gln Glu Lys Val Cys Ser His Val Ile Leu
            355                 360                 365
```

<210> 80
<211> 1335
<212> PRT
<213> Homo sapiens

<400> 80
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Met Ser Asp Ser Val Ile Leu Arg Ser Ile Lys Lys Phe Gly Glu Glu
 1               5                  10                  15
Asn Asp Gly Phe Glu Ser Asp Lys Ser Trp Trp Ser Leu Asn Pro Tyr
            20                  25                  30
Val Phe Leu Ile Arg Leu Gln Asp Glu Lys Lys Gly Asp Gly Val Arg
            35                  40                  45
Val Gly Phe Phe Gln Leu Phe Arg Phe Ser Ser Ser Thr Asp Ile Trp
    50                  55                  60
Leu Met Phe Val Gly Ser Leu Cys Ala Phe Leu His Gly Ile Ala Gln
65                  70                  75                  80
Pro Gly Val Leu Leu Ile Phe Gly Thr Met Thr Asp Val Phe Ile Asp
            85                  90                  95
Tyr Asp Val Glu Leu Gln Glu Leu Gln Ile Pro Gly Lys Ala Cys Val
            100                 105                 110
Asn Asn Thr Ile Val Trp Thr Asn Ser Ser Leu Asn Gln Asn Met Thr
            115                 120                 125
Asn Gly Thr Arg Cys Gly Leu Leu Asn Ile Glu Ser Glu Met Ile Lys
            130                 135                 140
Phe Ala Ser Tyr Tyr Ala Gly Ile Ala Val Ala Val Leu Ile Thr Gly
145                 150                 155                 160
Tyr Ile Gln Ile Cys Phe Trp Val Ile Ala Ala Ala Arg Gln Ile Gln
            165                 170                 175
Lys Met Arg Lys Phe Tyr Phe Arg Arg Ile Met Arg Met Glu Ile Gly
            180                 185                 190
Trp Phe Asp Cys Asn Ser Val Gly Glu Leu Asn Thr Arg Phe Ser Asp
            195                 200                 205
Asp Ile Asn Lys Ile Asn Asp Ala Ile Ala Asp Gln Met Ala Leu Phe
    210                 215                 220
Ile Gln Arg Met Thr Ser Thr Ile Cys Gly Phe Leu Leu Gly Phe Phe
225                 230                 235                 240
```
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```
Arg Gly Trp Lys Leu Thr Leu Val Ile Ile Ser Val Ser Pro Leu Ile
            245                     250                 255
Gly Ile Gly Ala Ala Thr Ile Gly Leu Ser Val Ser Lys Phe Thr Asp
            260                 265             270
Tyr Glu Leu Lys Ala Tyr Ala Lys Ala Gly Val Val Ala Asp Glu Val
        275             280             285
Ile Ser Ser Met Arg Thr Val Ala Ala Phe Gly Gly Glu Lys Arg Glu
    290                 295             300
Val Glu Arg Tyr Glu Lys Asn Leu Val Phe Ala Gln Arg Trp Gly Ile
305             310             315                     320
Arg Lys Gly Ile Val Met Gly Phe Phe Thr Gly Phe Val Trp Cys Leu
            325                 330                 335
Ile Phe Leu Cys Tyr Ala Leu Ala Phe Trp Tyr Gly Ser Thr Leu Val
            340             345                 350
Leu Asp Glu Gly Glu Tyr Thr Pro Gly Thr Leu Val Gln Ile Phe Leu
        355             360             365
Ser Val Ile Val Gly Ala Leu Asn Leu Gly Asn Ala Ser Pro Cys Leu
    370             375             380
Glu Ala Phe Ala Thr Gly Arg Ala Ala Ala Thr Ser Ile Phe Glu Thr
385             390             395             400
Ile Asp Arg Lys Pro Ile Ile Asp Cys Met Ser Glu Asp Gly Tyr Lys
            405             410             415
Leu Asp Arg Ile Lys Gly Glu Ile Glu Phe His Asn Val Thr Phe His
            420             425             430
Tyr Pro Ser Arg Pro Glu Val Lys Ile Leu Asn Asp Leu Asn Met Val
        435             440             445
Ile Lys Pro Gly Glu Met Thr Ala Leu Val Gly Pro Ser Gly Ala Gly
    450             455             460
Lys Ser Thr Ala Leu Gln Leu Ile Gln Arg Phe Tyr Asp Pro Cys Glu
465             470             475             480
Gly Met Val Thr Val Asp Gly His Asp Ile Arg Ser Leu Asn Ile Gln
            485             490             495
Trp Leu Arg Asp Gln Ile Gly Ile Val Glu Gln Glu Pro Val Leu Phe
            500             505             510
Ser Thr Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asp Ala Thr
    515             520             525
Met Glu Asp Ile Val Gln Ala Ala Lys Glu Ala Asn Ala Tyr Asn Phe
    530             535             540
Ile Met Asp Leu Pro Gln Gln Phe Asp Thr Leu Val Gly Glu Gly Gly
545             550             555             560
Gly Gln Met Ser Gly Gly Gln Lys Gln Arg Val Ala Ile Ala Arg Ala
            565             570             575
Leu Ile Arg Asn Pro Lys Ile Leu Leu Leu Asp Met Ala Thr Ser Ala
            580             585             590
Leu Asp Asn Glu Ser Glu Ala Met Val Gln Glu Val Leu Ser Lys Ile
        595             600             605
Gln His Gly His Thr Ile Ile Ser Val Ala His Arg Leu Ser Thr Val
    610             615             620
Arg Ala Ala Asp Thr Ile Ile Gly Phe Glu His Gly Thr Ala Val Glu
625             630             635             640
Arg Gly Thr His Glu Glu Leu Leu Glu Arg Lys Gly Val Tyr Phe Thr
            645             650             655
Leu Val Thr Leu Gln Ser Gln Gly Asn Gln Ala Leu Asn Glu Glu Asp
            660             665             670
Ile Lys Gly Lys Cys Phe Phe Pro Ile Leu Val Leu Asp Ala Thr Glu
            675             680             685
Asp Asp Met Leu Ala Arg Thr Phe Ser Arg Gly Ser Tyr Gln Asp Ser
    690             695             700
Leu Arg Ala Ser Ile Arg Gln Arg Ser Lys Ser Gln Leu Ser Tyr Leu
705             710             715             720
Val His Glu Pro Pro Leu Ala Val Val Asp His Lys Ser Thr Tyr Glu
            725             730             735
Glu Asp Arg Lys Asp Lys Asp Ile Pro Val Gln Glu Glu Val Glu Pro
```

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                740                    745                    750
Ala Pro Val Arg Arg Ile Leu Lys Phe Ser Ala Pro Glu Trp Pro Tyr
        755                    760                    765
Met Leu Val Gly Ser Val Gly Ala Ala Val Asn Gly Thr Val Thr Pro
    770                    775                    780
Leu Tyr Ala Phe Leu Phe Ser Gln Ile Leu Gly Thr Phe Ser Ile Pro
785                    790                    795                    800
Asp Lys Glu Glu Gln Arg Ser Gln Ile Asn Gly Val Cys Leu Leu Phe
                805                    810                    815
Val Ala Met Gly Cys Val Ser Leu Phe Thr Gln Phe Leu Gln Gly Tyr
        820                    825                    830
Ala Phe Ala Lys Ser Gly Glu Leu Leu Thr Lys Arg Leu Arg Lys Phe
        835                    840                    845
Gly Phe Arg Ala Met Leu Gly Gln Asp Ile Ala Trp Phe Asp Asp Leu
    850                    855                    860
Arg Asn Ser Pro Gly Ala Leu Thr Thr Arg Leu Ala Thr Asp Ala Ser
865                    870                    875                    880
Gln Val Gln Gly Ala Ala Gly Ser Gln Ile Gly Met Ile Val Asn Ser
                885                    890                    895
Phe Thr Asn Val Thr Val Ala Met Ile Ile Ala Phe Ser Phe Ser Trp
            900                    905                    910
Lys Leu Ser Leu Val Ile Leu Cys Phe Phe Pro Phe Leu Ala Leu Ser
        915                    920                    925
Gly Ala Thr Gln Thr Arg Met Leu Thr Gly Phe Ala Ser Arg Asp Lys
    930                    935                    940
Gln Ala Leu Glu Met Val Gly Gln Ile Thr Asn Glu Ala Leu Ser Asn
945                    950                    955                    960
Ile Arg Thr Val Ala Gly Ile Gly Lys Glu Arg Arg Phe Ile Glu Ala
                965                    970                    975
Leu Glu Thr Glu Leu Glu Lys Pro Phe Lys Thr Ala Ile Gln Lys Ala
            980                    985                    990
Asn Ile Tyr Gly Phe Cys Phe Ala Phe Ala Gln Cys Ile Met Phe Ile
        995                    1000                   1005
Ala Asn Ser Ala Ser Tyr Arg Tyr Gly Gly Tyr Leu Ile Ser Asn Glu
    1010                   1015                   1020
Gly Leu His Phe Ser Tyr Val Phe Arg Val Ile Ser Ala Val Val Leu
1025                   1030                   1035                   1040
Ser Ala Thr Ala Leu Gly Arg Ala Phe Ser Tyr Thr Pro Ser Tyr Ala
            1045                   1050                   1055
Lys Ala Lys Ile Ser Ala Ala Arg Phe Phe Gln Leu Leu Asp Arg Gln
        1060                   1065                   1070
Pro Pro Ile Ser Val Tyr Asn Thr Ala Gly Glu Lys Trp Asp Asn Phe
    1075                   1080                   1085
Gln Gly Lys Ile Asp Phe Val Asp Cys Lys Phe Thr Tyr Pro Ser Arg
    1090                   1095                   1100
Pro Asp Ser Gln Val Leu Asn Gly Leu Ser Val Ser Ile Ser Pro Gly
1105                   1110                   1115                   1120
Gln Thr Leu Ala Phe Val Gly Ser Ser Gly Cys Gly Lys Ser Thr Ser
            1125                   1130                   1135
Ile Gln Leu Leu Glu Arg Phe Tyr Asp Pro Asp Gln Gly Lys Val Met
        1140                   1145                   1150
Ile Asp Gly His Asp Ser Lys Lys Val Asn Val Gln Phe Leu Arg Ser
        1155                   1160                   1165
Asn Ile Gly Ile Val Ser Gln Glu Pro Val Leu Phe Ala Cys Ser Ile
    1170                   1175                   1180
Met Asp Asn Ile Lys Tyr Gly Asp Asn Thr Lys Glu Ile Pro Met Glu
1185                   1190                   1195                   1200
Arg Val Ile Ala Ala Lys Gln Ala Gln Leu His Asp Phe Val Met
            1205                   1210                   1215
Ser Leu Pro Glu Lys Tyr Glu Thr Asn Val Gly Ser Gln Gly Ser Gln
        1220                   1225                   1230
Leu Ser Arg Gly Glu Lys Gln Arg Ile Ala Ile Ala Arg Ala Ile Val
    1235                   1240                   1245
```

Arg Asp Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp
    1250   1255   1260
Thr Glu Ser Glu Lys Thr Val Gln Val Ala Leu Asp Lys Ala Arg Glu
1265   1270   1275   1280
Gly Arg Thr Cys Ile Val Ile Ala His Arg Leu Ser Thr Ile Gln Asn
                1285   1290   1295
Ala Asp Ile Ile Ala Val Met Ala Gln Gly Val Val Ile Glu Lys Gly
                1300   1305   1310
Thr His Glu Glu Leu Met Ala Gln Lys Gly Ala Tyr Tyr Lys Leu Val
            1315   1320   1325
Thr Thr Gly Ser Pro Ile Ser
            1330   1335

<210> 81
<211> 1279
<212> PRT
<213> Homo sapiens

<400> 81
Met Asp Leu Glu Ala Ala Lys Asn Gly Thr Ala Trp Arg Pro Thr Ser
1   5   10   15
Ala Glu Gly Asp Phe Glu Leu Gly Ile Ser Ser Lys Gln Lys Arg Lys
                20   25   30
Lys Thr Lys Thr Val Lys Met Ile Gly Val Leu Thr Leu Phe Arg Tyr
            35   40   45
Ser Asp Trp Gln Asp Lys Leu Phe Met Ser Leu Gly Thr Ile Met Ala
        50   55   60
Ile Ala His Gly Ser Gly Leu Pro Leu Met Met Ile Val Phe Gly Glu
65   70   75   80
Met Thr Asp Lys Phe Val Asp Thr Ala Gly Asn Phe Ser Phe Pro Val
                85   90   95
Asn Phe Ser Leu Ser Leu Leu Asn Pro Gly Lys Ile Leu Glu Glu Glu
                100   105   110
Met Thr Arg Tyr Ala Tyr Tyr Tyr Ser Gly Leu Gly Ala Gly Val Leu
            115   120   125
Val Ala Ala Tyr Ile Gln Val Ser Phe Trp Thr Leu Ala Ala Gly Arg
    130   135   140
Gln Ile Arg Lys Ile Arg Gln Lys Phe Phe His Ala Ile Leu Arg Gln
145   150   155   160
Glu Ile Gly Trp Phe Asp Ile Asn Asp Thr Thr Glu Leu Asn Thr Arg
                165   170   175
Leu Thr Asp Asp Ile Ser Lys Ile Ser Glu Gly Ile Gly Asp Lys Val
                180   185   190
Gly Met Phe Phe Gln Ala Val Ala Thr Phe Phe Ala Gly Phe Ile Val
            195   200   205
Gly Phe Ile Arg Gly Trp Lys Leu Thr Leu Val Ile Met Ala Ile Ser
    210   215   220
Pro Ile Leu Gly Leu Ser Ala Ala Val Trp Ala Lys Ile Leu Ser Ala
225   230   235   240
Phe Ser Asp Lys Glu Leu Ala Ala Tyr Ala Lys Ala Gly Ala Val Ala
                245   250   255
Glu Glu Ala Leu Gly Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln
            260   265   270
Asn Lys Glu Leu Glu Arg Tyr Gln Lys His Leu Glu Asn Ala Lys Glu
            275   280   285
Ile Gly Ile Lys Lys Ala Ile Ser Ala Asn Ile Ser Met Gly Ile Ala
    290   295   300
Phe Leu Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Ser
305   310   315   320
Thr Leu Val Ile Ser Lys Glu Tyr Thr Ile Gly Asn Ala Met Thr Val
                325   330   335
Phe Phe Ser Ile Leu Ile Gly Ala Phe Ser Val Gly Gln Ala Ala Pro
                340   345   350

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Cys Ile Asp Ala Phe Ala Asn Ala Arg Gly Ala Ala Tyr Val Ile Phe
        355                 360                 365
Asp Ile Ile Asp Asn Asn Pro Lys Ile Asp Ser Phe Ser Glu Arg Gly
        370                 375                 380
His Lys Pro Asp Ser Ile Lys Gly Asn Leu Glu Phe Asn Asp Val His
385                 390                 395                 400
Phe Ser Tyr Pro Ser Arg Ala Asn Val Lys Ile Leu Lys Gly Leu Asn
                405                 410                 415
Leu Lys Val Gln Ser Gly Gln Thr Val Ala Leu Val Gly Ser Ser Gly
        420                 425                 430
Cys Gly Lys Ser Thr Thr Val Gln Leu Ile Gln Arg Leu Tyr Asp Pro
        435                 440                 445
Asp Glu Gly Thr Ile Asn Ile Asp Gly Gln Asp Ile Arg Asn Phe Asn
        450                 455                 460
Val Asn Tyr Leu Arg Glu Ile Ile Gly Val Val Ser Gln Glu Pro Val
465                 470                 475                 480
Leu Phe Ser Thr Thr Ile Ala Glu Asn Ile Cys Tyr Gly Arg Gly Asn
                485                 490                 495
Val Thr Met Asp Glu Ile Lys Lys Ala Val Lys Glu Ala Asn Ala Tyr
                500                 505                 510
Glu Phe Ile Met Lys Leu Pro Gln Lys Phe Asp Thr Leu Val Gly Glu
        515                 520                 525
Arg Gly Ala Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala
        530                 535                 540
Arg Ala Leu Val Arg Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr
545                 550                 555                 560
Ser Ala Leu Asp Thr Glu Ser Glu Ala Glu Val Gln Ala Ala Leu Asp
                565                 570                 575
Lys Ala Arg Glu Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu Ser
                580                 585                 590
Thr Val Arg Asn Ala Asp Val Ile Ala Gly Phe Glu Asp Gly Val Ile
        595                 600                 605
Val Glu Gln Gly Ser His Ser Glu Leu Met Lys Lys Glu Gly Val Tyr
        610                 615                 620
Phe Lys Leu Val Asn Met Gln Thr Ser Gly Ser Gln Ile Gln Ser Glu
625                 630                 635                 640
Glu Phe Glu Leu Asn Asp Glu Lys Ala Ala Thr Arg Met Ala Pro Asn
                645                 650                 655
Gly Trp Lys Ser Arg Leu Phe Arg His Ser Thr Gln Lys Asn Leu Lys
                660                 665                 670
Asn Ser Gln Met Cys Gln Lys Ser Leu Asp Val Glu Thr Asp Gly Leu
        675                 680                 685
Glu Ala Asn Val Pro Pro Val Ser Phe Leu Lys Val Leu Lys Leu Asn
        690                 695                 700
Lys Thr Glu Trp Pro Tyr Phe Val Val Gly Thr Val Cys Ala Ile Ala
705                 710                 715                 720
Asn Gly Gly Leu Gln Pro Ala Phe Ser Val Ile Phe Ser Glu Ile Ile
                725                 730                 735
Ala Ile Phe Gly Pro Gly Asp Asp Ala Val Lys Gln Gln Lys Cys Asn
        740                 745                 750
Ile Phe Ser Leu Ile Phe Leu Phe Leu Gly Ile Ile Ser Phe Phe Thr
        755                 760                 765
Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly Glu Ile Leu Thr
        770                 775                 780
Arg Arg Leu Arg Ser Met Ala Phe Lys Ala Met Leu Arg Gln Asp Met
785                 790                 795                 800
Ser Trp Phe Asp Asp His Lys Asn Ser Thr Gly Ala Leu Ser Thr Arg
                805                 810                 815
Leu Ala Thr Asp Ala Ala Gln Val Gln Gly Ala Thr Gly Thr Arg Leu
                820                 825                 830
Ala Leu Ile Ala Gln Asn Ile Ala Asn Leu Gly Thr Gly Ile Ile Ile
        835                 840                 845
Ser Phe Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu Leu Ala Val Val
```

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                850                       855                       860
Pro Ile Ile Ala Val Ser Gly Ile Val Glu Met Lys Leu Leu Ala Gly
865                       870                       875                       880
Asn Ala Lys Arg Asp Lys Lys Glu Leu Glu Ala Ala Gly Lys Ile Ala
                          885                       890                       895
Thr Glu Ala Ile Glu Asn Ile Arg Thr Val Val Ser Leu Thr Gln Glu
                900                       905                       910
Arg Lys Phe Glu Ser Met Tyr Val Glu Lys Leu Tyr Gly Pro Tyr Arg
                915                       920                       925
Asn Ser Val Gln Lys Ala His Ile Tyr Gly Ile Thr Phe Ser Ile Ser
        930                       935                       940
Gln Ala Phe Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe Gly Ala
945                       950                       955                       960
Tyr Leu Ile Val Asn Gly His Met Arg Phe Arg Asp Val Ile Leu Val
                          965                       970                       975
Phe Ser Ala Ile Val Phe Gly Ala Val Ala Leu Gly His Ala Ser Ser
                980                       985                       990
Phe Ala Pro Asp Tyr Ala Lys Ala Lys Leu Ser Ala Ala His Leu Phe
                995                       1000                      1005
Met Leu Phe Glu Arg Gln Pro Leu Ile Asp Ser Tyr Ser Glu Glu Gly
        1010                      1015                      1020
Leu Lys Pro Asp Lys Phe Glu Gly Asn Ile Thr Phe Asn Glu Val Val
1025                      1030                      1035                      1040
Phe Asn Tyr Pro Thr Arg Ala Asn Val Pro Val Leu Gln Gly Leu Ser
                          1045                      1050                      1055
Leu Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val Gly Ser Ser Gly
                1060                      1065                      1070
Cys Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg Phe Tyr Asp Pro
                1075                      1080                      1085
Leu Ala Gly Thr Val Leu Leu Asp Gly Gln Glu Ala Lys Lys Leu Asn
        1090                      1095                      1100
Val Gln Trp Leu Arg Ala Gln Leu Gly Ile Val Ser Gln Glu Pro Ile
1105                      1110                      1115                      1120
Leu Phe Asp Cys Ser Ile Ala Glu Asn Ile Ala Tyr Gly Asp Asn Ser
                          1125                      1130                      1135
Arg Val Val Ser Gln Asp Glu Ile Val Ser Ala Ala Lys Ala Ala Asn
                1140                      1145                      1150
Ile His Pro Phe Ile Glu Thr Leu Pro His Lys Tyr Glu Thr Arg Val
                1155                      1160                      1165
Gly Asp Lys Gly Thr Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala
        1170                      1175                      1180
Ile Ala Arg Ala Leu Ile Arg Gln Pro Gln Ile Leu Leu Leu Asp Glu
1185                      1190                      1195                      1200
Ala Thr Ser Ala Leu Asp Thr Glu Ser Glu Lys Val Val Gln Glu Ala
                          1205                      1210                      1215
Leu Asp Lys Ala Arg Glu Gly Arg Thr Cys Ile Val Ile Ala His Arg
                1220                      1225                      1230
Leu Ser Thr Ile Gln Asn Ala Asp Leu Ile Val Val Phe Gln Asn Gly
        1235                      1240                      1245
Arg Val Lys Glu His Gly Thr His Gln Gln Leu Leu Ala Gln Lys Gly
        1250                      1255                      1260
Ile Tyr Phe Ser Met Val Ser Val Gln Ala Gly Thr Gln Asn Leu
1265                      1270                      1275
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<210> 82
<211> 1280
<212> PRT
<213> Homo sapiens

<400> 82
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Met Asp Leu Glu Gly Asp Arg Asn Gly Gly Ala Lys Lys Lys Asn Phe
1               5                       10                      15
Phe Lys Leu Asn Asn Lys Ser Glu Lys Asp Lys Lys Glu Lys Lys Pro
```

```
                    20                      25                      30
Thr Val Ser Val Phe Ser Met Phe Arg Tyr Ser Asn Trp Leu Asp Lys
        35                      40                      45
Leu Tyr Met Val Val Gly Thr Leu Ala Ala Ile Ile His Gly Ala Gly
        50                      55                      60
Leu Pro Leu Met Met Leu Val Phe Gly Glu Met Thr Asp Ile Phe Ala
65                      70                      75                      80
Asn Ala Gly Asn Leu Glu Asp Leu Met Ser Asn Ile Thr Asn Arg Ser
                85                      90                      95
Asp Ile Asn Asp Thr Gly Phe Phe Met Asn Leu Glu Glu Asp Met Thr
            100                     105                     110
Arg Tyr Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val Leu Val Ala
        115                     120                     125
Ala Tyr Ile Gln Val Ser Phe Trp Cys Leu Ala Ala Gly Arg Gln Ile
        130                     135                     140
His Lys Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg Gln Glu Ile
145                     150                     155                     160
Gly Trp Phe Asp Val His Asp Val Gly Glu Leu Asn Thr Arg Leu Thr
                165                     170                     175
Asp Asp Val Ser Lys Ile Asn Glu Gly Ile Gly Asp Lys Ile Gly Met
                180                     185                     190
Phe Phe Gln Ser Met Ala Thr Phe Phe Thr Gly Phe Ile Val Gly Phe
        195                     200                     205
Thr Arg Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile Ser Pro Val
        210                     215                     220
Leu Gly Leu Ser Ala Ala Val Trp Ala Lys Ile Leu Ser Ser Phe Thr
225                     230                     235                     240
Asp Lys Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val Ala Glu Glu
                245                     250                     255
Val Leu Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln Lys Lys
            260                     265                     270
Glu Leu Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile Gly
        275                     280                     285
Ile Lys Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe Leu
        290                     295                     300
Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Thr Leu
305                     310                     315                     320
Val Leu Ser Gly Glu Tyr Ser Ile Gly Gln Val Leu Thr Val Phe Phe
                325                     330                     335
Ser Val Leu Ile Gly Ala Phe Ser Val Gly Gln Ala Ser Pro Ser Ile
            340                     345                     350
Glu Ala Phe Ala Asn Ala Arg Gly Ala Ala Tyr Glu Ile Phe Lys Ile
        355                     360                     365
Ile Asp Asn Lys Pro Ser Ile Asp Ser Tyr Ser Lys Ser Gly His Lys
        370                     375                     380
Pro Asp Asn Ile Lys Gly Asn Leu Glu Phe Arg Asn Val His Phe Ser
385                     390                     395                     400
Tyr Pro Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn Leu Lys
            405                     410                     415
Val Gln Ser Gly Gln Thr Val Ala Leu Val Gly Asn Ser Gly Cys Gly
        420                     425                     430
Lys Ser Thr Thr Val Gln Leu Met Gln Arg Leu Tyr Asp Pro Thr Glu
        435                     440                     445
Gly Met Val Ser Val Asp Gly Gln Asp Ile Arg Thr Ile Asn Val Arg
        450                     455                     460
Phe Leu Arg Glu Ile Ile Gly Val Val Ser Gln Glu Pro Val Leu Phe
465                     470                     475                     480
Ala Thr Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asn Val Thr
                485                     490                     495
Met Asp Glu Ile Glu Lys Ala Val Lys Glu Ala Asn Ala Tyr Asp Phe
            500                     505                     510
Ile Met Lys Leu Pro His Lys Phe Asp Thr Leu Val Gly Glu Arg Gly
        515                     520                     525
```

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Ala Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala
    530   535   540
Leu Val Arg Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala
545   550   555   560
Leu Asp Thr Glu Ser Glu Ala Val Val Gln Val Ala Leu Asp Lys Ala
                565   570   575
Arg Lys Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu Ser Thr Val
                580   585   590
Arg Asn Ala Asp Val Ile Ala Gly Phe Asp Asp Gly Val Ile Val Glu
            595   600   .   605
Lys Gly Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile Tyr Phe Lys
        610   615   620 `
Leu Val Thr Met Gln Thr Ala Gly Asn Glu Val Glu Leu Glu Asn Ala
625   630   635   640
Ala Asp Glu Ser Lys Ser Glu Ile Asp Ala Leu Glu Met Ser Ser Asn
                645   650   655
Asp Ser Arg Ser Ser Leu Ile Arg Lys Arg Ser Thr Arg Arg Ser Val
            660   665   670
Arg Gly Ser Gln Ala Gln Asp Arg Lys Leu Ser Thr Lys Glu Ala Leu
        675   680   685
Asp Glu Ser Ile Pro Pro Val Ser Phe Trp Arg Ile Met Lys Leu Asn
        690   695   700
Leu Thr Glu Trp Pro Tyr Phe Val Val Gly Val Phe Cys Ala Ile Ile
705   710   715   720
Asn Gly Gly Leu Gln Pro Ala Phe Ala Ile Ile Phe Ser Lys Ile Ile
                725   730   735
Gly Val Phe Thr Arg Ile Asp Asp Pro Glu Thr Lys Arg Gln Asn Ser
                740   745   750
Asn Leu Phe Ser Leu Leu Phe Leu Ala Leu Gly Ile Ile Ser Phe Ile
        755   760   765
Thr Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly Glu Ile Leu
    770   775   780
Thr Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu Arg Gln Asp
785   790   795   800
Val Ser Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala Leu Thr Thr
                805   810   815
Arg Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile Gly Ser Arg
            820   825   830
Leu Ala Val Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr Gly Ile Ile
        835   840   845
Ile Ser Phe Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu Leu Ala Ile
        850   855   860
Val Pro Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys Met Leu Ser
865   870   875   880
Gly Gln Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ser Gly Lys Ile
                885   890   895
Ala Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser Leu Thr Gln
            900   905   910
Glu Gln Lys Phe Glu His Met Tyr Ala Gln Ser Leu Gln Val Pro Tyr
        915   920   925
Arg Asn Ser Leu Arg Lys Ala His Ile Phe Gly Ile Thr Phe Ser Phe
    930   935   940
Thr Gln Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe Gly
945   950   955   960
Ala Tyr Leu Val Ala His Lys Leu Met Ser Phe Glu Asp Val Leu Leu
                965   970   975
Val Phe Ser Ala Val Val Phe Gly Ala Met Ala Val Gly Gln Val Ser
            980   985   990
Ser Phe Ala Pro Asp Tyr Ala Lys Ala Lys Ile Ser Ala Ala His Ile
        995   1000   1005
Ile Met Ile Ile Glu Lys Thr Pro Leu Ile Asp Ser Tyr Ser Thr Glu
    1010   1015   1020
Gly Leu Met Pro Asn Thr Leu Glu Gly Asn Val Thr Phe Gly Glu Val

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```
1025                1030                1035                      1040
Val Phe Asn Tyr Pro Thr Arg Pro Asp Ile Pro Val Leu Gln Gly Leu
                1045                1050                1055
Ser Leu Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val Gly Ser Ser
                1060                1065                1070
Gly Cys Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg Phe Tyr Asp
            1075                1080                1085
Pro Leu Ala Gly Lys Val Leu Leu Asp Gly Lys Glu Ile Lys Arg Leu
        1090                1095                1100
Asn Val Gln Trp Leu Arg Ala His Leu Gly Ile Val Ser Gln Glu Pro
1105                1110                1115                      1120
Ile Leu Phe Asp Cys Ser Ile Ala Glu Asn Ile Ala Tyr Gly Asp Asn
                1125                1130                1135
Ser Arg Val Val Ser Gln Glu Glu Ile Val Arg Ala Ala Lys Glu Ala
                1140                1145                1150
Asn Ile His Ala Phe Ile Glu Ser Leu Pro Asn Lys Tyr Ser Thr Lys
            1155                1160                1165
Val Gly Asp Lys Gly Thr Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile
        1170                1175                1180
Ala Ile Ala Arg Ala Leu Val Arg Gln Pro His Ile Leu Leu Leu Asp
1185                1190                1195                      1200
Glu Ala Thr Ser Ala Leu Asp Thr Glu Ser Glu Lys Val Val Gln Glu
                1205                1210                1215
Ala Leu Asp Lys Ala Arg Glu Gly Arg Thr Cys Ile Val Ile Ala His
            1220                1225                1230
Arg Leu Ser Thr Ile Gln Asn Ala Asp Leu Ile Val Val Phe Gln Asn
            1235                1240                1245
Gly Arg Val Lys Glu His Gly Thr His Gln Gln Leu Leu Ala Gln Lys
        1250                1255                1260
Gly Ile Tyr Phe Ser Met Val Ser Val Gln Ala Gly Thr Lys Arg Gln
1265                1270                1275                      1280
```

<210> 83
<211> 378
<212> PRT
<213> Homo sapiens

<400> 83

```
Met Leu Leu Thr Val Tyr Cys Val Arg Arg Asp Leu Ser Glu Val Thr
1               5                   10                  15
Phe Ser Leu Gln Val Asp Ala Asp Phe Glu Leu His Asn Phe Arg Ala
            20                  25                  30
Leu Cys Glu Leu Glu Ser Gly Ile Pro Ala Ala Glu Ser Gln Ile Val
        35                  40                  45
Tyr Ala Glu Arg Pro Leu Thr Asp Asn His Arg Ser Leu Ala Ser Tyr
    50                  55                  60
Gly Leu Lys Asp Gly Asp Val Val Ile Leu Arg Gln Lys Glu Asn Ala
65                  70                  75                  80
Asp Pro Arg Pro Pro Val Gln Phe Pro Asn Leu Pro Arg Ile Asp Phe
                85                  90                  95
Ser Ser Ile Ala Val Pro Gly Thr Ser Ser Pro Arg Gln Arg Gln Pro
            100                 105                 110
Pro Gly Thr Gln Gln Ser His Ser Ser Pro Gly Glu Ile Thr Ser Ser
        115                 120                 125
Pro Gln Gly Leu Asp Asn Pro Ala Leu Leu Arg Asp Met Leu Leu Ala
    130                 135                 140
Asn Pro His Glu Leu Ser Leu Leu Lys Glu Arg Asn Pro Pro Leu Ala
145                 150                 155                 160
Glu Ala Leu Leu Ser Gly Asp Leu Glu Lys Phe Ser Arg Val Leu Val
                165                 170                 175
Glu Gln Gln Gln Asp Arg Ala Arg Arg Glu Gln Glu Arg Ile Arg Leu
            180                 185                 190
Phe Ser Ala Asp Pro Phe Asp Leu Glu Ala Gln Ala Lys Ile Glu Glu
```

```
              195                   200                   205
Asp Ile Arg Gln Gln Asn Ile Glu Glu Asn Met Thr Ile Ala Met Glu
         210                   215                   220
Glu Ala Pro Glu Ser Phe Gly Gln Val Val Met Leu Tyr Ile Asn Cys
225                   230                   235                   240
Lys Val Asn Gly His Pro Val Lys Ala Phe Val Asp Ser Gly Ala Gln
                 245                   250                   255
Met Thr Ile Met Ser Gln Ala Cys Ala Glu Arg Cys Asn Ile Met Arg
             260                   265                   270
Leu Val Asp Arg Arg Trp Ala Gly Ile Ala Lys Gly Val Gly Thr Gln
         275                   280                   285
Lys Ile Ile Gly Arg Val His Leu Ala Gln Val Gln Ile Glu Gly Asp
     290                   295                   300
Phe Leu Pro Cys Ser Phe Ser Ile Leu Glu Glu Gln Pro Met Asp Met
305                   310                   315                   320
Leu Leu Gly Leu Asp Met Leu Lys Arg His Gln Cys Ser Ile Asp Leu
                 325                   330                   335
Lys Lys Asn Val Leu Val Ile Gly Thr Thr Gly Ser Gln Thr Thr Phe
             340                   345                   350
Leu Pro Glu Gly Glu Leu Pro Glu Cys Ala Arg Leu Ala Tyr Gly Ala
         355                   360                   365
Gly Arg Glu Asp Val Arg Pro Glu Glu Ile
     370                   375
```

<210> 84
<211> 78
<212> PRT
<213> Homo sapiens

<400> 84
```
Gln Thr Gly Pro Ser Val Thr Val Thr Cys Thr Glu Gly Lys Trp Asn
 1               5                   10                  15
Lys Gln Cys Arg Ile Lys Cys Glu Asp Thr Ala Pro His Ala Val Leu
             20                  25                  30
Pro Ser Gly Ser Glu Cys Ala Thr Ser Cys Leu Asp His Asn Ser Glu
         35                  40                  45
Ser Ile Leu Pro Met Asn Val Thr Val Arg Asp Ile Pro His Trp
     50                  55                  60
Leu Asn Pro Thr Arg Val Glu Val Ser Asp Gln Gly His Leu
65                  70                  75
```

<210> 85
<211> 417
<212> PRT
<213> Homo sapiens

<400> 85
```
Met Ser Ala Thr Leu Ile Leu Glu Pro Pro Gly Arg Cys Cys Trp Asn
 1               5                   10                  15
Glu Pro Val Arg Ile Ala Val Arg Gly Leu Ala Pro Glu Gln Arg Val
             20                  25                  30
Thr Leu Arg Ala Ser Leu Arg Asp Glu Lys Gly Ala Leu Phe Arg Ala
         35                  40                  45
His Ala Arg Tyr Cys Ala Asp Ala Arg Gly Glu Leu Asp Leu Glu Arg
     50                  55                  60
Ala Pro Ala Leu Gly Gly Ser Phe Ala Gly Leu Glu Pro Met Gly Leu
65                  70                  75                  80
Leu Trp Ala Leu Glu Pro Glu Lys Pro Phe Trp Arg Phe Leu Lys Arg
                 85                  90                  95
Asp Val Gln Ile Pro Phe Val Val Glu Leu Glu Val Leu Asp Gly His
             100                 105                 110
Asp Pro Glu Pro Gly Arg Leu Leu Cys Gln Ala Gln His Glu Arg His
         115                 120                 125
```

```
Phe Leu Pro Pro Gly Val Arg Arg Gln Ser Val Arg Ala Gly Arg Val
    130             135                 140
Arg Ala Thr Leu Phe Leu Pro Pro Gly Pro Gly Pro Phe Pro Gly Ile
145             150                 155                 160
Ile Asp Ile Phe Gly Ile Gly Gly Gly Leu Leu Glu Tyr Arg Ala Ser
                165             170                 175
Leu Leu Ala Gly His Gly Phe Ala Thr Leu Ala Leu Ala Tyr Tyr Asn
            180                 185                 190
Phe Glu Asp Leu Pro Asn Asn Met Asp Asn Ile Ser Leu Glu Tyr Phe
            195                 200                 205
Glu Glu Ala Val Cys Tyr Met Leu Gln His Pro Gln Val Lys Gly Pro
    210                 215                 220
Gly Ile Gly Leu Leu Gly Ile Ser Leu Gly Ala Asp Ile Cys Leu Ser
225                 230                 235                 240
Met Ala Ser Phe Leu Lys Asn Val Ser Ala Thr Val Ser Ile Asn Gly
            245                 250                 255
Ser Gly Ile Ser Gly Asn Thr Ala Ile Asn Tyr Lys His Ser Ser Ile
            260                 265                 270
Pro Pro Leu Gly Tyr Asp Leu Arg Arg Ile Lys Val Ala Phe Ser Gly
        275                 280                 285
Leu Val Asp Ile Val Asp Ile Arg Asn Ala Leu Val Gly Gly Tyr Lys
    290                 295                 300
Asn Pro Ser Met Ile Pro Ile Glu Lys Ala Gln Gly Pro Ile Leu Leu
305             310                 315                 320
Ile Val Gly Gln Asp Asp His Asn Trp Arg Ser Glu Leu Tyr Ala Gln
            325                 330                 335
Thr Val Ser Glu Arg Leu Gln Ala His Gly Lys Glu Lys Pro Gln Ile
            340                 345                 350
Ile Cys Tyr Pro Gly Thr Gly His Tyr Ile Glu Pro Pro Tyr Phe Pro
        355                 360                 365
Leu Cys Pro Ala Ser Leu His Arg Leu Leu Asn Lys His Val Ile Trp
    370                 375                 380
Gly Gly Glu Pro Arg Ala His Ser Lys Ala Gln Glu Asp Ala Trp Lys
385                 390                 395                 400
Gln Ile Leu Ala Phe Phe Cys Lys His Leu Gly Gly Thr Gln Lys Thr
            405                 410                 415
Ala
```

<210> 86
<211> 1066
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (116)...(117)
<223> Xaa = Any Amino Acid

<400> 86

```
Ile Leu His Gly Glu His Thr Leu Ser His Gln Asp Asn Phe Ser Pro
 1               5                   10                  15
Gly Gln Glu Val Phe Tyr Ser Cys Glu Pro Ser Tyr Asp Leu Arg Gly
            20                  25                  30
Ala Ala Ser Leu His Cys Thr Pro Gln Gly Asp Trp Ser Pro Glu Ala
            35                  40                  45
Pro Arg Cys Thr Val Lys Ser Cys Asp Asp Phe Leu Gly Gln Leu Pro
    50                  55                  60
His Gly Arg Val Leu Leu Pro Leu Asn Leu Gln Leu Gly Ala Lys Val
65                  70                  75                  80
Ser Phe Val Cys Asp Glu Gly Phe Arg Leu Lys Gly Arg Ser Ala Ser
            85                  90                  95
His Cys Val Leu Ala Gly Met Lys Ala Leu Trp Asn Ser Ser Val Pro
```

```
                    100                 105                 110
Val Cys Glu Xaa Xaa Met Ile Lys Thr Val Phe Leu Phe Phe Ser Leu
        115                 120                 125
Pro Ile Ser Asn Asn Ala His Glu Asn Pro Lys Glu Val Ala Ile His
    130                 135                 140
Leu His Ser Gln Gly Gly Ser Ser Val His Pro Arg Thr Leu Gln Thr
145                 150                 155                 160
Asn Glu Glu Asn Ser Arg Tyr Ile His Thr Glu Phe Lys Met Phe Ser
                165                 170                 175
Thr Thr Gln Ile Ser Lys Met Glu Thr Gly Leu Glu Tyr Asp Ile Ala
            180                 185                 190
Leu Ala Asn Asn Glu Cys Lys Asn Ser Tyr Ser Leu Val Thr Arg Glu
        195                 200                 205
Ile Phe Val Ile His Tyr Ile Asp Cys Ala Leu Pro Phe Pro Gly Ile
    210                 215                 220
Ile Cys Gly Leu Pro Pro Thr Ile Ala Asn Gly Asp Phe Thr Ser Ile
225                 230                 235                 240
Ser Arg Glu Tyr Phe His Tyr Gly Ser Val Thr Tyr His Cys Asn
                245                 250                 255
Leu Gly Ser Arg Gly Lys Lys Val Phe Glu Leu Val Gly Glu Pro Ser
            260                 265                 270
Ile Tyr Cys Thr Ser Lys Asp Asp Gln Val Gly Ile Trp Ser Gly Pro
        275                 280                 285
Ala Pro Gln Cys Ile Ile Pro Asn Lys Cys Thr Pro Pro Asn Val Glu
    290                 295                 300
Asn Gly Ile Leu Val Ser Asp Asn Arg Ser Leu Phe Ser Leu Asn Glu
305                 310                 315                 320
Val Val Glu Phe Arg Cys Gln Pro Gly Phe Gly Met Lys Gly Pro Ser
                325                 330                 335
His Val Lys Cys Gln Ala Leu Asn Lys Trp Glu Pro Glu Leu Pro Ser
            340                 345                 350
Cys Ser Arg Val Cys Gln Pro Pro Pro Asp Val Leu His Ala Glu Arg
        355                 360                 365
Thr Gln Arg Asp Lys Asp Asn Phe Ser Pro Gly Gln Glu Val Phe Tyr
    370                 375                 380
Ser Cys Glu Pro Gly Tyr Asp Leu Arg Gly Ser Thr Tyr Leu His Cys
385                 390                 395                 400
Thr Pro Gln Gly Asp Trp Ser Pro Ala Ala Pro Arg Cys Glu Val Lys
                405                 410                 415
Ser Cys Asp Asp Phe Leu Gly Gln Leu Pro Asn Gly His Val Leu Phe
            420                 425                 430
Pro Leu Asn Leu Gln Leu Gly Ala Lys Val Asp Phe Val Cys Asp Glu
        435                 440                 445
Gly Phe Gln Leu Lys Gly Ser Ser Ala Ser Tyr Cys Val Leu Ala Gly
    450                 455                 460
Met Glu Ser Leu Trp Asn Ser Ser Val Pro Val Cys Glu Arg Val Thr
465                 470                 475                 480
Phe Gln Ala Asn Leu Ser Pro Ser Ser Val Gln Tyr Leu Thr His Asp
                485                 490                 495
Thr Leu Arg Thr Glu Glu Ser Ser Asp Tyr Ser Thr Trp Leu Gln Asn
            500                 505                 510
Ile Phe Phe Pro Thr Gly Lys Ser Cys Glu Thr Pro Pro Val Pro Val
        515                 520                 525
Asn Gly Met Val His Val Ile Thr Asp Ile His Val Gly Ser Arg Ile
    530                 535                 540
Asn Tyr Ser Cys Thr Thr Gly His Arg Leu Ile Gly His Ser Ser Ala
545                 550                 555                 560
Glu Cys Ile Leu Ser Gly Asn Thr Ala His Trp Ser Met Lys Pro Pro
                565                 570                 575
Ile Cys Gln Arg Ile Pro Cys Gly Leu Pro Pro Asn Ile Thr Asn Gly
            580                 585                 590
Tyr Phe Ile Ser Thr Asp Arg Glu Tyr Phe His Tyr Gly Ser Val Val
        595                 600                 605
```

```
Thr Tyr His Cys Asn Leu Gly Ser Arg Gly Arg Lys Val Phe Glu Leu
    610                 615                 620
Val Gly Glu Pro Ser Ile Tyr Cys Thr Ser Lys Asp Asp Gln Val Val
625                 630                 635                 640
Val Trp Ser Gly Pro Val Pro Gln Cys Ile Ile Pro Asn Lys Cys Thr
                645                 650                 655
Pro Pro Asn Val Glu Asn Gly Ile Leu Val Ser Asp Asn Arg Ser Leu
            660                 665                 670
Phe Ser Leu Asn Glu Val Val Glu Phe Arg Cys Gln Pro Gly Phe Val
        675                 680                 685
Met Lys Gly Pro His Arg Val Gln Cys Gln Ala Leu Asn Lys Trp Glu
    690                 695                 700
Pro Glu Leu Pro Ser Cys Ser Arg Gly Tyr Ser Lys Arg Asn Ser Pro
705                 710                 715                 720
Ile Thr Asn Lys Tyr Ser Gly Thr Val Leu Ser Thr Met Cys Gln Pro
                725                 730                 735
Pro Pro Glu Ile Leu His Gly Glu His Thr Leu Ser His Gln Asp Asn
            740                 745                 750
Phe Leu Pro Gly Gln Glu Val Phe Tyr Ser Cys Glu Pro Ser Tyr Asp
        755                 760                 765
Leu Arg Gly Ala Ala Ser Leu His Cys Met Pro Gln Gly Asp Trp Thr
    770                 775                 780
Pro Glu Ala Pro Arg Cys Thr Gly Ala Ser Leu Ser Pro Ser His Gly
785                 790                 795                 800
Ser Leu Thr Pro Val Val Leu Phe Phe Leu Leu Val Lys Ser Cys Asp
                805                 810                 815
Asp Phe Leu Gly Gln Leu Pro His Gly Arg Val Leu Phe Pro Leu Asn
            820                 825                 830
Leu Gln Leu Gly Ala Lys Val Ser Phe Val Cys Asp Glu Gly Ser Ala
    835                 840                 845
Ser His Cys Val Leu Ala Gly Thr Lys Ala Leu Trp Asn Ser Ser Val
    850                 855                 860
Pro Val Cys Glu Gln Ile Phe Cys Pro Asn Pro Pro Ala Ile Leu Asn
865                 870                 875                 880
Gly Arg His Thr Gly Thr Pro Pro Gly Asp Ile Pro Tyr Gly Lys Glu
                885                 890                 895
Val Ser Tyr Thr Cys Asp Pro His Pro Asp Arg Gly Met Thr Phe Asn
            900                 905                 910
Leu Ile Gly Glu Ser Thr Ile Arg Arg Thr Ser Glu Pro His Gly Asn
        915                 920                 925
Gly Val Trp Ser Ser Pro Ala Pro Arg Cys Glu Leu Pro Val Gly Ala
    930                 935                 940
Asp Gln Cys Asn Val Pro Glu Trp Leu Pro Phe Ala Arg Pro Thr Asn
945                 950                 955                 960
Leu Thr Asp Asp Phe Glu Phe Pro Ile Gly Thr Tyr Leu Asn Tyr Glu
                965                 970                 975
Cys Arg Pro Gly Tyr Ser Gly Arg Pro Phe Ser Ile Ile Cys Leu Lys
            980                 985                 990
Asn Ser Val Trp Thr Ser Ala Lys Asp Lys Cys Lys Arg Lys Ser Cys
        995                 1000                1005
Arg Asn Pro Pro Asp Pro Val Asn Gly Met Ala His Val Ile Lys Asp
    1010                1015                1020
Ile Gln Phe Arg Ser Gln Ile Lys Tyr Ser Cys Pro Lys Gly Tyr Arg
1025                1030                1035                1040
Leu Ile Gly Ser Ser Ser Ala Thr Cys Ile Ile Ser Gly Asn Thr Val
            1045                1050                1055
Ile Trp Asp Asn Lys Thr Pro Val Cys Asp
            1060                1065
```

<210> 87
<211> 683
<212> PRT
<213> Homo sapiens

<400> 87

```
Ile Cys Cys Pro Asp Asp Pro Gln Pro Ala Lys Asp Gln Leu Ala Thr
1               5               10              15
Val Pro Lys Asp Ile Pro Leu Asp Cys Asp Cys Val Leu Thr Gly Glu
            20              25              30
Asp Ile Leu Gly Glu Val Ala Asn Arg Thr Ala Gln Gly Leu Glu Gly
        35              40              45
Leu Val Ser Asp Ser Ala Cys Thr Val Gly Thr Ile Asp Ala Glu Gln
    50              55              60
Leu Ser Asp Thr Asp Ser Val Gln Met Phe Leu Glu Leu Glu Lys Glu
65              70              75              80
Cys Leu Cys Glu Glu Gly Val Thr Pro Leu Val Glu Leu Gln Asn Gln
            85              90              95
Ile Ser Ser Glu Gly Leu Ala Ala Ser Gln Asp Ala Glu Asn Leu Leu
            100             105             110
Val Ile Ser His Phe Ser Gly Ala Ala Leu Glu Lys Glu Gln His Leu
        115             120             125
Gly Leu His Val Arg Ala Lys Asp Tyr Asp Thr Arg Leu Asp Cys
    130             135             140
Gly Tyr Phe Asn Thr Leu Asp Ser Ser Gln Val Pro Asn Ala Val Glu
145             150             155             160
Leu Ile Ala His Val Asp Ile Met Arg Asp Thr Ser Thr Val Ser Lys
            165             170             175
Glu Glu Cys Glu Lys Val Pro Phe Ser Pro Arg Thr Ala Glu Phe Lys
            180             185             190
Ser Arg Gln Pro Ala Asp Leu Asp Ser Leu Glu Lys Leu Asp Pro Gly
        195             200             205
Gly Leu Leu Asn Ser Asp His Arg Val Ser His Glu Glu Lys Leu Ser
    210             215             220
Gly Phe Ile Ala Ser Glu Leu Ala Lys Asp Asn Gly Ser Leu Ser Gln
225             230             235             240
Gly Asp Cys Ser Gln Thr Glu Gly Asn Gly Glu Glu Cys Ile Glu Arg
            245             250             255
Val Thr Phe Ser Phe Ala Phe Asn His Glu Leu Thr Asp Val Thr Ser
            260             265             270
Gly Pro Glu Val Glu Val Leu Tyr Glu Ser Asn Leu Leu Thr Asp Glu
        275             280             285
Ile His Leu Glu Ser Gly Asn Val Thr Val Asn Gln Glu Asn Asn Ser
    290             295             300
Leu Thr Ser Met Gly Asn Val Val Thr Cys Glu Leu Ser Val Glu Lys
305             310             315             320
Val Cys Asp Glu Asp Gly Glu Ala Lys Glu Leu Asp Tyr Gln Ala Thr
            325             330             335
Leu Leu Glu Asp Gln Ala Pro Ala His Phe His Arg Asn Phe Pro Glu
            340             345             350
Gln Val Phe Gln Asp Leu Gln Arg Lys Ser Pro Glu Ser Glu Ile Leu
        355             360             365
Ser Leu His Leu Leu Val Glu Glu Leu Arg Leu Asn Pro Asp Gly Val
    370             375             380
Glu Thr Val Asn Asp Thr Lys Pro Glu Leu Asn Val Ala Ser Ser Glu
385             390             395             400
Gly Gly Glu Met Glu Arg Arg Asp Ser Asp Ser Phe Leu Asn Ile Phe
            405             410             415
Pro Glu Lys Gln Val Thr Lys Ala Gly Asn Thr Glu Pro Val Leu Glu
        420             425             430
Glu Trp Ile Pro Val Leu Gln Arg Pro Ser Arg Thr Ala Ala Val Pro
        435             440             445
Thr Val Lys Asp Ala Leu Asp Ala Ala Leu Pro Ser Pro Glu Glu Gly
    450             455             460
Thr Ser Ile Ala Ala Val Pro Ala Pro Glu Gly Thr Ala Val Val Ala
465             470             475             480
Ala Leu Val Pro Phe Pro His Glu Asp Ile Leu Val Ala Ser Ile Val
```

```
                        485                    490                    495
Ser Leu Glu Glu Glu Asp Val Thr Ala Ala Ala Val Ser Ala Pro Glu
                500                    505                    510
Arg Ala Thr Val Pro Ala Val Thr Val Ser Val Pro Glu Gly Thr Ala
            515                    520                    525
Ala Val Ala Ala Val Ser Ser Pro Glu Glu Thr Ala Pro Ala Val Ala
        530                    535                    540
Ala Ala Ile Thr Gln Glu Gly Met Ser Ala Val Ala Gly Phe Ser Pro
545                    550                    555                    560
Glu Trp Ala Ala Leu Ala Val Thr Val Pro Ile Thr Glu Glu Asp Ala
                565                    570                    575
Ala Ala Val Pro Thr Pro Glu Val Ala Ala Ile Pro Ala Ala Ser Val
            580                    585                    590
Pro Thr Pro Glu Val Pro Ala Ile Pro Ala Ala Ala Val Pro Pro Met
        595                    600                    605
Glu Glu Val Ser Pro Ile Gly Val Pro Phe Leu Gly Val Ser Ala His
    610                    615                    620
Thr Asp Ser Val Pro Ile Ser Glu Glu Gly Thr Pro Val Leu Glu Glu
625                    630                    635                    640
Ala Ser Ser Thr Gly Met Trp Ile Lys Glu Asp Leu Asp Ser Leu Val
                645                    650                    655
Phe Gly Ile Lys Glu Val Thr Ser Thr Val Leu His Gly Lys Val Pro
                660                    665                    670
Leu Ala Ala Thr Ala Gly Leu Asn Ser Asp Glu
            675                    680
```

<210> 88
<211> 174
<212> PRT
<213> Homo sapiens

<400> 88
```
Ser Glu Gly Asn Lys Arg Arg Leu Ser Thr Ala Ile Ala Leu Met Gly
1                   5                   10                  15
Arg Ser Ser Val Ile Phe Leu Asp Glu Pro Ser Thr Gly Met Asp Pro
                20                  25                  30
Val Ala Arg Leu Leu Trp Asn Met Val Thr Lys Thr Arg Glu Ser
            35                  40                  45
Gly Lys Ala Ile Val Met Thr Ser His Ser Met Glu Glu Cys Asp Ala
        50                  55                  60
Leu Cys Thr Ser Leu Ala Ile Met Val Gln Gly Lys Phe Thr Cys Leu
65                  70                  75                  80
Gly Ser Pro Gln His Leu Lys Ser Lys Phe Gly Asn Ile Tyr Ile Leu
                85                  90                  95
Lys Val Lys Val Lys Thr Glu Asp Lys Leu Glu Asp Phe Lys Cys Tyr
                100                 105                 110
Val Ala Thr Thr Phe Pro Gly Glu Ile Ala Met Val Thr Val Phe Leu
            115                 120                 125
Leu Leu Leu Leu Lys Val Phe Gly Ile Leu Glu Glu Ala Lys Glu Gln
        130                 135                 140
Phe Asp Leu Glu Asp Tyr Ser Val Ser Gln Ile Thr Leu Glu Gln Val
145                 150                 155                 160
Phe Leu Thr Phe Ala Asn Pro Glu Lys Ala Ser Ser Asp Asp
                165                 170
```

<210> 89
<211> 124
<212> PRT
<213> Homo sapiens

<400> 89
```
Asp Cys Gly Pro Pro Glu Leu Pro Phe Ala Phe Pro Ile Asn Pro
1                   5                   10                  15
```

Leu Tyr Asp Thr Glu Phe Lys Thr Gly Thr Thr Leu Lys Tyr Thr Cys
         20   25   30
His Pro Gly His Gly Lys Ile Asn Ser Ser Arg Leu Ile Cys Asp Ala
         35   40   45
Lys Asp Ser Trp Asn Tyr Ser Ile Phe Cys Ala Ile Ala Lys Cys Glu
      50   55   60
Pro Pro Pro Asp Ile Arg Asn Gly Lys His Ser Gly Gly Asp Gln Glu
65   70   75   80
Phe Tyr Thr Tyr Ala Ser Ser Val Thr Tyr Ser Cys Asn Pro Tyr Phe
         85   90   95
Ser Leu Ile Gly Asn Val Ser Ile Ser Cys Thr Val Glu Asn Glu Thr
         100   105   110
Ile Gly Val Trp Ser Pro Asn Pro Pro Ile Cys Glu
         115   120

<210> 90
<211> 294
<212> PRT
<213> Homo sapiens

<400> 90
Ile Ser Lys Asp Arg Lys Glu Arg Val His Gln Gly Met Val Arg Ala
 1   5   10   15
Ala Thr Val Gly Tyr Gly Ile Leu Arg Glu Gly Gly Ser Ala Val Asp
         20   25   30
Ala Val Glu Gly Ala Val Val Ala Leu Glu Asp Asp Pro Glu Phe Asn
         35   40   45
Ala Gly Cys Gly Ser Val Leu Asn Thr Asn Gly Glu Val Glu Met Asp
         50   55   60
Ala Ser Ile Met Asp Gly Lys Asp Leu Ser Ala Gly Ala Val Ser Ala
65   70   75   80
Val Gln Cys Ile Ala Asn Pro Ile Lys Leu Ala Arg Leu Val Met Glu
         85   90   95
Lys Thr Pro His Cys Phe Leu Thr Asp Gln Gly Ala Ala Gln Phe Ala
         100   105   110
Ala Ala Met Gly Val Pro Glu Ile Pro Gly Glu Lys Leu Val Thr Glu
         115   120   125
Arg Asn Lys Lys Arg Leu Glu Lys Glu Lys His Glu Lys Gly Ala Gln
      130   135   140
Lys Thr Asp Cys Gln Lys Asn Leu Gly Thr Val Gly Ala Val Ala Leu
145   150   155   160
Asp Cys Lys Gly Asn Val Ala Tyr Ala Thr Ser Thr Gly Gly Ile Val
         165   170   175
Asn Lys Met Val Gly Arg Val Gly Asp Ser Pro Cys Leu Gly Ala Gly
         180   185   190
Gly Tyr Ala Asp Asn Asp Ile Gly Ala Val Ser Thr Thr Gly His Gly
         195   200   205
Glu Ser Ile Leu Lys Val Asn Leu Ala Arg Leu Thr Leu Phe His Ile
      210   215   220
Glu Gln Gly Lys Thr Val Glu Glu Ala Ala Asp Leu Ser Leu Gly Tyr
225   230   235   240
Met Lys Ser Arg Val Lys Gly Leu Gly Gly Leu Ile Val Val Ser Lys
         245   250   255
Thr Gly Asp Trp Val Ala Lys Trp Thr Ser Thr Ser Met Pro Trp Ala
         260   265   270
Ala Ala Lys Asp Gly Lys Leu His Phe Gly Ile Asp Pro Asp Asp Thr
         275   280   285
Thr Ile Thr Asp Leu Pro
      290

<210> 91
<211> 467
<212> PRT

<213> Homo sapiens

<400> 91

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Leu Gln Leu Gly Ala Lys Val Ser Phe Val Cys Asp Glu Gly Phe Arg
1             5                  10              15
Leu Lys Gly Arg Ser Ala Ser His Cys Val Leu Ala Gly Met Lys Ala
         20              25                  30
Leu Trp Asn Ser Ser Val Pro Val Cys Glu Arg Ile Ile Cys Gly Leu
         35              40              45
Pro Pro Thr Ile Ala Asn Gly Asp Phe Thr Ser Ile Ser Arg Glu Tyr
     50              55              60
Phe His Tyr Gly Ser Val Val Thr Tyr His Cys Asn Leu Gly Ser Arg
65              70              75              80
Gly Lys Lys Val Phe Glu Leu Val Gly Glu Pro Ser Ile Tyr Cys Thr
             85              90              95
Ser Lys Asp Asp Gln Val Gly Ile Trp Ser Gly Pro Ala Pro Gln Cys
         100             105             110
Ile Ile Pro Asn Lys Cys Thr Pro Pro Asn Val Glu Asn Gly Ile Leu
         115             120             125
Val Ser Asp Asn Arg Ser Leu Phe Ser Leu Asn Glu Val Val Glu Phe
     130             135             140
Arg Cys Gln Pro Gly Phe Gly Met Lys Gly Pro Ser His Val Lys Cys
145             150             155             160
Gln Ala Leu Asn Lys Trp Glu Pro Glu Leu Pro Ser Cys Ser Arg Val
             165             170             175
Cys Gln Pro Pro Pro Asp Val Leu His Ala Glu Arg Thr Gln Arg Asp
         180             185             190
Lys Asp Asn Phe Ser Pro Gly Gln Glu Val Phe Tyr Ser Cys Glu Pro
         195             200             205
Gly Tyr Asp Leu Arg Gly Ser Thr Tyr Leu His Cys Thr Pro Gln Gly
210             215             220
Asp Trp Ser Pro Ala Ala Pro Arg Cys Glu Val Lys Ser Cys Asp Asp
225             230             235             240
Phe Leu Gly Gln Leu Pro Asn Gly His Val Leu Phe Pro Leu Asn Leu
             245             250             255
Gln Leu Gly Ala Lys Val Asp Phe Val Cys Asp Glu Gly Phe Gln Leu
         260             265             270
Lys Gly Ser Ser Ala Ser Tyr Cys Val Leu Ala Gly Met Glu Ser Leu
         275             280             285
Trp Asn Ser Ser Val Pro Val Cys Glu Gln Ile Phe Cys Pro Asn Pro
     290             295             300
Pro Ala Ile Leu Asn Gly Arg His Thr Gly Thr Pro Pro Gly Asp Ile
305             310             315             320
Pro Tyr Gly Lys Glu Val Ser Tyr Thr Cys Asp Pro His Pro Asp Arg
             325             330             335
Gly Met Thr Phe Asn Leu Ile Gly Glu Ser Thr Ile Arg Arg Thr Ser
             340             345             350
Glu Pro His Gly Asn Gly Val Trp Ser Ser Pro Ala Pro Arg Cys Glu
         355             360             365
Leu Pro Val Gly Ala Asp Gln Cys Asn Val Pro Glu Trp Leu Pro Phe
     370             375             380
Ala Arg Pro Thr Asn Leu Thr Asp Asp Phe Glu Phe Pro Ile Gly Thr
385             390             395             400
Tyr Leu Asn Tyr Glu Cys Arg Pro Gly Tyr Ser Gly Arg Pro Phe Ser
             405             410             415
Ile Ile Cys Leu Lys Asn Ser Val Trp Thr Ser Ala Lys Asp Lys Cys
         420             425             430
Lys Arg Lys Ser Cys Arg Asn Pro Pro Asp Pro Val Asn Gly Met Ala
         435             440             445
His Val Ile Lys Asp Ile Gln Phe Arg Ser Gln Ile Lys Tyr Ser Cys
     450             455             460
Pro Lys Gly
465
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<210> 92
<211> 446
<212> PRT
<213> Homo sapiens

<400> 92
His Gly Arg Val Leu Leu Pro Leu Asn Leu Gln Leu Gly Ala Lys Val
1   5   10   15
Ser Phe Val Cys Asp Glu Gly Phe Arg Leu Lys Gly Arg Ser Ala Ser
            20   25   30
His Cys Val Leu Ala Gly Met Lys Ala Leu Trp Asn Ser Ser Val Pro
        35   40   45
Val Cys Glu Arg Ile Ile Cys Gly Leu Pro Pro Thr Ile Ala Asn Gly
    50   55   60
Asp Phe Thr Ser Ile Ser Arg Glu Tyr Phe His Tyr Gly Ser Val Val
65   70   75   80
Thr Tyr His Cys Asn Leu Gly Ser Arg Gly Lys Lys Val Phe Glu Leu
            85   90   95
Val Gly Glu Pro Ser Ile Tyr Cys Thr Ser Lys Asp Asp Gln Val Gly
            100   105   110
Ile Trp Ser Gly Pro Ala Pro Gln Cys Ile Ile Pro Asn Lys Cys Thr
        115   120   125
Pro Pro Asn Val Glu Asn Gly Ile Leu Val Ser Asp Asn Arg Ser Leu
        130   135   140
Phe Ser Leu Asn Glu Val Val Glu Phe Arg Cys Gln Pro Gly Phe Gly
145   150   155   160
Met Lys Gly Pro Ser His Val Lys Cys Gln Ala Leu Asn Lys Trp Glu
            165   170   175
Pro Glu Leu Pro Ser Cys Ser Arg Val Cys Gln Pro Pro Pro Asp Val
            180   185   190
Leu His Ala Glu Arg Thr Gln Arg Asp Lys Asp Asn Phe Ser Pro Gly
    195   200   205
Gln Glu Val Phe Tyr Ser Cys Glu Pro Gly Tyr Asp Leu Arg Gly Ser
    210   215   220
Thr Tyr Leu His Cys Thr Pro Gln Gly Asp Trp Ser Pro Ala Ala Pro
225   230   235   240
Arg Cys Glu Val Lys Ser Cys Asp Asp Phe Leu Gly Gln Leu Pro Asn
            245   250   255
Gly His Val Leu Phe Pro Leu Asn Leu Gln Leu Gly Ala Lys Val Asp
            260   265   270
Phe Val Cys Asp Glu Gly Phe Gln Leu Lys Gly Ser Ser Ala Ser Tyr
    275   280   285
Cys Val Leu Ala Gly Met Glu Ser Leu Trp Asn Ser Ser Val Pro Val
    290   295   300
Cys Glu Gln Ile Phe Cys Pro Asn Pro Pro Ala Ile Leu Asn Gly Arg
305   310   315   320
His Thr Gly Thr Pro Pro Gly Asp Ile Pro Tyr Gly Lys Glu Val Ser
            325   330   335
Tyr Thr Cys Asp Pro His Pro Asp Arg Gly Met Thr Phe Asn Leu Ile
            340   345   350
Gly Glu Ser Thr Ile Arg Arg Thr Ser Glu Pro His Gly Asn Gly Val
    355   360   365
Trp Ser Ser Pro Ala Pro Arg Cys Glu Leu Pro Val Gly Ala Gly Gln
370   375   380
Tyr Pro Leu Pro His Ile Leu Asn Gly Phe Arg Ile Cys Ser Glu Val
385   390   395   400
Glu Val Phe Glu Tyr Leu Asn Ala Val Thr Asp Ser Cys Asp Pro Ala
            405   410   415
Pro Gly Pro Asp Pro Phe Ser Leu Ile Gly Glu Ser Thr Ile Tyr Cys
            420   425   430
Gly Asp Asn Ser Val Trp Asn His Ala Ala Pro Glu Cys Lys
            435   440   445